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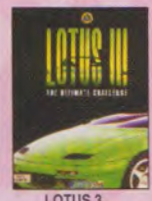

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europress ENTERPRISE

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GETTING INTO DTP

PAGE 10

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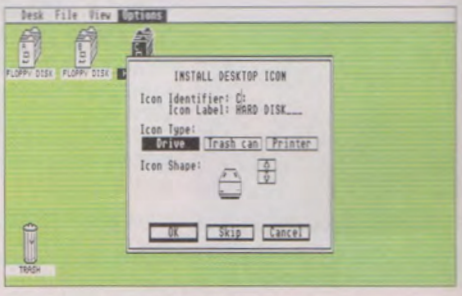

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ON THIS MONTH'S COVERDISK

TIMEWORKS 2

... one of the best-known DTP packages for the ST! Our cover disk version lets you design with all eight standard fonts, save to disk and output to an Epson-compatible printer.

Five pages of tutorial starts with an installation guide on page 10...

Plus see page 16 for:

LET 'EM FLY – adds shortcuts to dialogues.
WINX – major system enhancement.
SHELL BUFFER – prevents NEWDESK.INF corruption.
SILKMOUSE – excellent mouse accelerator and screen saver.
SPIRIT EDITOR – text editor for use with *Timeworks 2*.
THURG 'N' MURG – super US platform game!

LOOKING TO 1994

This time last year, I was contemplating writing the now infamous editorial for issue 12 of ST Review. EMAP Images had decided to close down the magazine and I had been called in specifically to oversee this. Unless someone has been involved in such a position, it is impossible to imagine how difficult it is to turn out a decent magazine under such pressure and the drop in quality was clear to see.

The story this year is very different. Since being at Europress, ST Review has proved to be the essential ST magazine to buy if you want to get the best editorial coverage, and the increase in size to the current 116 pages is testimony to this. I can't promise that the magazine will stay at this size, but at least we are flexible enough to give you a bigger issue when we can. And usually at no extra cost – although the Chancellor may have something to say about this in the impending budget!

You have probably noticed that the cover price has increased to £3.99. The increase is only for this issue due to the second cover disk – you are effectively getting some of the best utilities in the land for a mere 49 pence! Once you try WinX and Let 'em Fly, I think you'll agree that this is money well spent. And, of course, we have the cover disk version of Timeworks 2. Aside from the printout limitations, you are getting the full on-screen version of Timeworks 2 with save enabled, eight fonts and import of graphics and text. You'll also learn how to create your own business stationery with our tutorials over the next four issues.

Shortly before writing this editorial, I visited the International Computer Show at Wembley only to find that the public attendance was very disappointing. Many exhibitors were openly expressing the view that their costs would not be covered. In walking around, I counted support for three computer platforms and an absolute plethora of games consoles – but is a Nintendo freak really going to want to look at stands supporting the ST or Amiga?

Perhaps it is time for all of us to accept that such dilution of interest in attending such a multi-format show should engender far more interest in the kind of show sponsored by Europress. Just a few months earlier, the London Atari Show left a good taste in the mouths of the public and exhibitor alike. The Manchester Atari Show (December 12) takes place just after this issue comes out. I'll be there – I hope you will be as well.

So have a nice Christmas and I'll see you in the New Year...

Vic Lennard
Editor

ATARI

After the New York launch of the Jaguar, is a Jaguar-based computer now more likely?

At the launch in New York city of the Jaguar console, Atari President, Sam Tramiel, claimed that the so-called 64-bit console might pave the way for a Jaguar-based home computer.

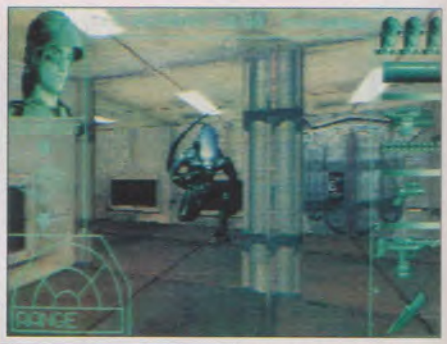
The way that the Jaguar's DMA interface has been designed, that's always been a logical step. Mr Tramiel claimed that the hardware developers in California were instructed to design a series of machines, all of which would take advantage of the powerful new Tom and Jerry chip set. "We're definitely planning a Jaguar console mark two for 1996," claimed Tramiel, "and, although I'd like to stress that's not why we're here right now, we've got the capability to produce a home computer version".

An Atari representative has privately conceded that plans for the Falcon will only be afforded minimum status, and that, for now, the company's mission is set squarely on attacking the dominance of Sega and Nintendo in the multi-million dollar console market.

The purpose of the Manhattan launch was to convince the American side of the industry that it had secured reasonable enough support from publishers and to show case its "hard-hitting" negative TV campaign (where a Jaguar leaps from the console and 'eats' the announcer) against rival manufacturers. Most importantly from Atari's point of view, it was a chance to impress upon the delegates that it had secured impressive distribution deals with large American chain stores, many of which are familiar here, Toys 'R' Us, for example, others less so, the cornily-named We Love The Wiz, for instance.

Not surprisingly, the launch party had the sort of inaugural feel you'd associate with the beginning of an election campaign. The speeches were gung-ho, the event took place in the Time-Life sky scraper, a short walk away from the Empire State Building; pretty girls dressed up in cat suits served canapes and cocktails for the delegates. It's pretty much a do-or-die affair: if the Jaguar doesn't succeed in the New York and San Francisco areas it's got little chance elsewhere in the States; if it doesn't succeed in the States...

Nevertheless, soon there'll be some 10,000 machines kicking around this side of the pond to generate interest. Mostly, they'll be going into specific branches of HMV and Virgin Games,



Alien V Predator is currently hailed as THE game that will show off just exactly what the Jaguar can do. As you run around the maze, hunting while being hunted, the texture mapping on the walls is incredible.

It DOES look like the Nintendo game, Starfox... but the way the space craft is continually morphed into different shapes can ONLY be done this well on Atari's machine.

AGGRESSION

Formula racing comes to the Jaguar in the Virtual Racing-alike Chequered Flag II.

Admittedly, a straightforward enough scrolly shoot 'em up – however the ray tracing in the game has to be seen to be believed.

Massive Jaguar adverts are already starting to appear in the States.

however, a number of independents are expected to stock the machine, supplied by Thornley Distribution and SDL. Generally, though, expect the European launch to be a far more low-key affair.

The New York event was also the right time to announce a number of key software deals. The initial batch of titles will all be either Atari-programmed or Atari-sponsored. They're either original or 8-bit or Atari coin-op adaptations and the one that seems most likely set to parade the machine's immense power is *Alien V Predator* from Rebellion Software in Oxford. The texture mapping in this dungeon/chase game is really quite exquisite.

The new signings will add some much-needed big game appeal – although currently the software portfolio still lacks a mass appeal original like a Sonic or a Mario. Nevertheless, *Battle Chess*, *Return to Zork*, *Jimmy Connors' Tennis*, *Zool* and some brand name football and pinball conversions ought to stoke the fires of publicity.

"I'd like to keep the price of the CD drive down," said Tramiel, suggesting $150 as a ball-park figure. All of the memory required to make the CD work will be in the host machine and the launch will take place at the Las Vegas CES in January. The Jaguar will be MPEG 1 and MPEG 2 compatible; the former may let you watch music videos, the latter to watch the clutch of CD movies that Atari investor, Time Warner, have the rights to.

Managing Director of Atari Europe, Bob Gleadow, confirmed that the firm will keep abreast of technological changes and has pencilled in a number of upgraded Jaguar consoles; Jaguar 2 is set for a 1996 release. The entire Jaguar range will be based around the same technology.

> *We're definitely planning a Jaguar console mark two for 1996 and we've got the capability to produce a home computer version.*
>
> *Sam Tramiel, President, Atari Corporation.*

Let's hope that it will include a version that will unleash the staggering power of chip set for uses other than playing games. The Jaguar is going to be far easier to program on than any existing console. Atari know this and expect a lot of people who've worked on home computer formats to embrace the new system. And the more that people unravel the system's potential the more likely the calls for extending its use in the home.

One person who knows a great deal about this power is ST-expert-turned-Jaguar-devotee, Jeff Minter. Jeff is responsible for putting together the soon-to-be-released conversion of the wire-framed classic game, *Tempest*. "It's the most adaptable machine I've ever worked on; with the sort of architecture that you're dealing with here, it really is the sky is the limit."

SOFTWARE SUPPORT

Three more prestigious software houses have lined up behind the Jaguar. Gremlin Graphics have already started work on a Jaguar version of *Zool 2* and are looking towards putting several of their other key titles onto the console next year. David Martin, Gremlin's Marketing Director, said, "We looked at the technical specs of the machine and suddenly the decision was an easy one. You have to support it". Simulation specialists, Microprose, are also firmly behind the new console. Paul Hibberd, Group Publishing Director, said recently, "For the first time we will be able to take our top quality software onto the console stage without having to worry about hardware restrictions". 21st Century Software have also started development work on the Jaguar. Managing Director Andrew Hewson said, "The Jaguar is miles ahead of any other cartridge-based console".

Accolade have also decided to board the ship at an early date and are committed to five games: *Al Michael's Announces Hardball 3*, *Brett Hall Hockey*, *Charles Barclay's Basketball*, *Busby the Bobcat in Claws Encounters of the Furred Kind* and *Jack Nicklaus Power Challenge Golf*. The latter includes two Nicklaus-designed golf courses and four fully-digitised players.

Bob Gleadow, Atari's European supremo, commented, "Atari is committed to 41 titles but that list will expand. If we come out with 100 titles, that will be a lot, but it's a realistic target".

The Atari Jaguar costs £199 and comes with one game, Cybermorph, and a joypad. It goes into full scale production after the New Year and is expected to be readily available in decent numbers by March.

LYNX LEASE OF LIFE

Despite increasing pressure on the Lynx, with some high street stores discounting it heavily and others dropping it, six new full price titles have just been released: *Lemmings*, *Gordo 106*, *Jimmy Connors Tennis*, *Dino Olympics* and *Power Factor*, all priced at £29.99, as well as the long-awaited *Double Dragon*.

Desert Strike is the next big release pencilled in and it is expected around Christmas. Speaking on the Lynx, Atari's Darryl Still said, "The launch of the Jaguar can only benefit it. It will have the big brother effect, giving it a leading-edge console to lean on".

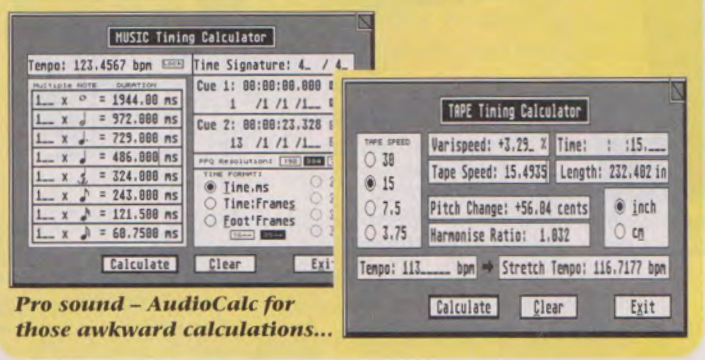
Adverts for the Lynx show Atari's intention to relaunch the machine off the back of the Jaguar.

NEWS

FALCON SPIN-OFF FOR ST OWNERS

Due to increasing interest from customers, Hinton Instruments have decided to release the audio calculator part of their forthcoming Falcon product, the *A440 Audio Engineering Toolkit*, as a stand-alone program for use on any ST, TT or Falcon operating at a minimum resolution of 640 by 400. *AudioCalc* is a professional audio calculator that runs as a program or accessory and comprises of five calculators integrated into a single GEM-based program. Each calculator is a mini spreadsheet and is contained within a moveable dialogue box. The individual calculators (Sound, Music, Tape, Analogue and Digital) are each geared towards different fields of professional audio engineering. A demo is contained on this issue's second cover disk.

AudioCalc costs £39.95 (UK), £45.00 (Europe) and £50 (Rest of World). More information from Hinton Instruments. Tel: 0373 451927.



Pro sound – AudioCalc for those awkward calculations...

REPLACEMENT ROMS

Compo are offering Falcon owners the chance to upgrade their TOS version to 4.04. This latest revision solves a number of quirks, including DMA sound being initialised automatically without having to run a patch program. Pricing depends on whether your machine has TOS installed on ROMs or EPROMs. If it's on EPROM, Compo will blow the new TOS onto your existing chips for £25. ROMs will be replaced at a cost of £45. Compo offer free fitting but there's a charge of £10 to return your machine to you by courier.

ScreenBlaster (reviewed in issue 20) is now being bundled with *NVDI*, the screen accelerator, at no extra cost. Also available shortly from Compo will be a voice mail system, that allows you to use your Falcon as an answering machine, and a replacement mouse with a built-in microphone. The mouse is designed to allow you to input your messages for voice mail and other software that uses voice input. All of the above are designed for use with the Falcon030. Contact Compo Software. Tel: 0480 891819.

COVER DISK PROBLEM

There was a cover disk problem with the December issue of *ST Review* due to a corrupted *DESKTOP.INF* file. If you have had any problems booting with the disk, do the following:

- Boot up your ST with one of your normal boot disks.
- When the desktop appears, remove the disk and place the *ST Review* cover disk in the drive.
- Use the "Save Desktop" selection in the "Options" menu to save a new DESKTOP.INF file to the disk.
- Reboot with the *ST Review* cover disk.

We apologise for any inconvenience caused.

ST REVIEW HOTLINE

ST Review will now run the same helpline service as that offered by the other Europress Enterprise magazines. Between 2pm and 5pm each Friday afternoon, you can call us on 0625 859766 with any technical or cover disk enquiries. Such advice will not be available outside of these times.

ADDED PRESTIGE

Star Micronics are now offering an extended warranty scheme on their entire range of dot matrix and laser printers. The current one year on-site warranty can be extended to three years under their new "Prestige Cover" scheme. Existing owners of Star printers which are less than a year old are also eligible for inclusion in the scheme. New users can choose to purchase the additional cover at any time during their statutory twelve month guarantee period. Costs vary from £80 to £150 depending on which model you have.

Star have also added two new models to their popular LC range. The LC24-30 (£299) is a colour printer aimed at the low end business user while the LC24-300 (£359) has all the standard features of the LC24-30 but adds improved paper handling capabilities to allow changing from single sheets to continuous paper at the press of a button. It is also faster, at speeds of up to 264cps, and marginally quieter than the LC24-30. Both printers boast running costs of as low as 0.3p per printed sheet in either mono or colour.

For further details contact Star Micronics UK Ltd. Tel 0494 471111.

Two new LC models from Star.

IN BRIEF

- **An Atari ST PD library has recently opened in the Irish Republic. Called Playboys PDL, it can be contacted at Killynure, Redhills, Co Cavan, Republic of Ireland. A printed catalogue is available by sending an SAE or an International Reply Coupon to the above address. A disk catalogue is also available for 75p.**

- **Gajits, best known for the MIDI and sample sequencers Breakthru, Sequencer One and Sequencer One Plus, has changed its name to Software Technology Ltd. Although always known as Gajits in the UK, the new name has been in use for some time in foreign markets.**

- **Following its recent merger with Atari ST User, ST Action has been axed. Rather than continue as a supplement, it is to be fully integrated as the 22-page games section of ST User. ST Action ran for more than five years and the last published circulation figure, taken over a year ago, was around 17,000 copies.**

- **The South Thames College are introducing the BTEC National Certificate in Design (Audio Visual), with options in Sound Recording and Music Technology. The Music Technology part of the course is taught using Atari 1040s, running Cubase Lite. For further details or to arrange an interview, contact John Dodd or Des Lyver on 081-870 2241 extension 340 or 345, or leave a message on 081-874 5724.**

- **Two Falcon enthusiasts, with a bit of help from The ST Club, have launched Falcon Fact File based on ST Register which filled a much needed gap for ST users back in the early days. Its aim is to put Falcon users with similar setups in touch with each other to exchange ideas. Contact Falcon Fact File, 11 Pound Meadow, Whitchurch, Hampshire.**

System Solutions

World Record

68000 CPU running at 36MHz

Two new Accelerators are now available for the MegaST and ST(FM) computers. Performance and price are sensational. The T28 with a 28MHz clock is 3.5 times faster and the T36 with a 36MHz clock is 4.5 times faster than the original ST's clock. The use of the original 68000 processor guarantees near perfect compatibilty. CPU cacheing is switchable for added compatibility with the cartridge port devices. DTP, Graphics Software and Cubase show a fantastic speed increase. Compared with a standard ST without Blitter, Gembench v3.12 gives the following results:

	ST(FM)	T28	T36
CPU	100%	299%	373%
Graphics	100%	949%	1097%
Average	100%	763%	890%

The combination of the T28/T36 and NVDI transforms the humble ST into a powerful graphics workstation - a dream come true for all those who want more speed at an affordable price. Until 31st December 1993 we include free installation or a copy of NVDI.

T28 Accelerator, 28MHz, 64kb Cache **£199**
T36 Accelerator, 36MHz, 64kb Cache **£299**

High Density

elCo doubles Disk space to 1.44Mb!

★ Automatic floppy disk detection
★ Compatible with your floppy disks
★ Software is included. (ACC and CPX)

Kit price still only £79.95 inc VAT

High Res Monitors

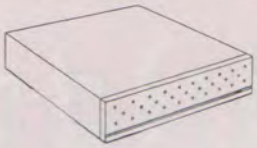
The SM14s is a perfect replacement for the Atari SM124/5 monochrome monitors, exceeding the original specifications. The 14" high resolution paperwhite FST gives a perfectly centred, crisp and sharp image without blurring at the edges.

"Essential Buy, 90%"
ST Review, May 93

without audio
SM14 £149.95
with audio
SM14s £169.95

Hard Drives

"Extremely nice looking..." Professional Quality SCSI Hard Drives Systems, 40 -2600 Megabytes from £299. "This is the fastest of the drives reviewed and is superbly engineered, not to mention great value for money." ST User, Issue 90, August 1993.



Special Offer:
105Mb Quantum SCSI Drive with ICD Link
£369 inc.VAT

Falcon SCSI Hard Drives

Ideal for hard-disk recording
1000Mb, 10ms, 5 yr warranty - **£1099**
340Mb plug-in-and-go - **£569**
For other capacities please phone.

MiniS

Introducing MiniS, the small SCSI hard Disk System at affordable prices for all computers with SCSI connections. Ideal for portability and limited space. A complete system for all STFM, STe, TT and Falcon computers.

★ Quiet fan ★ Dual SCSI port
★ Device Number Switch
★ Internal Power Supply
★ Small (2.5x6x8.5in) (WxHxD)
★ Smart and tough plastic case

MiniS	ST(FM/e)	TT/Falcon
105Mb	£299	£259
170Mb	£359	£329
240MB	£399	£359
340Mb	£549	£499
1000Mb	£1049	£999

All Prices include VAT

The Falcon Column

Are you planning to purchase a Falcon? How much of your old kit will work on it? Or do you just feel tempted and want to know how much a complete system would cost? For advice and a personal quote phone:
London: 081-693 3355 or
Windsor: 0753 832212

Now in Stock

Falcon030 Starter Pack:

4mb, 14" Mono Monitor & BlowUP **£889**

BlowUP 030 the Display Expander
Using Software and/or Hardware the display expands up to 400%. Virtual screens up to 8000% are also possible.
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up to 880x608 53/101Hz
BlowUP 030 - Hard 1 **£49.95**
Exellent for Multiscan's (1024x768)
BlowUP 030 - Hard 2 **£69.95**
VGA and other fixed frequency monitors.

falconWING SIMM memory board
Accepts 4x 1mb or 4mb SIMM,
falconWING - 0mb **£49.95**
falconWING - 14mb **£699**
Ask for a trade-in deal on your old memory.

Falcon Tower **£179.95**
Integrates the system, space for extra hard drives, separate or replacement keyboard. Phone for the Tower Fact Sheet and price list. DIY or ask for a quote on ready-to-run fitted systems.

We are now dealers for **Steinberg**

Cubase Audio for the Falcon 030 is now up and running in the Showroom.

FLY LIKE THE WIND...

NVDI replaces the Atari display routines. Screen updates with NVDI are 3-10 times faster. Works with all TOS versions on all Atari ST, MegaST, TT and for the Falcon. MultiTOS and SpeedoGDOScompatible.

"Scrolling through a long text file in 1st Word Plus took half the time ... Calamus, Calligrapher and Wordflair also showed a marked improvement ... Compatibility is remarkable and we have yet to find a program that is not compatible with NVDI. ... a must for all ST and Falcon owners"
ST Review Issue 16, August 1993.

NVDI Version 2.5 - £49.95

Repairs & Upgrades

All repairs are carried out by qualified personnel. If you would like a quote, please ask for an estimate. Need it back in a hurry? Then ask for our professional next-day service. Call us to discuss your upgrade requirements. We fit all quality upgrade products available. We can collect and deliver.

Call the professionals now for your personal quote.

Windsor Service Centre:
Windsor Business Centre, off Duke Street, Windsor, SL4 1SE. **Tel:0753-818816**
London Service Centre:
The Desktop Centre, 17-19 Blackwater Street, East Dulwich, SE22 8RS. **Tel:081-693 1919**

ATARI WORKSHOP

To order and for further information telephone or write to:

System Solutions
Windsor Business Centre, Vansittart Road, Windsor, SL4 1SE Fax: 0753-830344

Mail Order Telephone
0753-832212

or come to our London Showroom at:
The Desktop Centre
17-19 Blackwater Street, London, SE22 8RS
Tel: 081-693 3355 Fax: 081-693 6936
Dealer enquiries are welcome

TIMED TO PERFECTION

Your Timeworks 2 cover disks are just raring to go, so let Nial Grimes guide you through those first few tricky moments...

If you've already double-clicked on *PUBLISH.APP*, you'll have discovered that *Timeworks 2* cannot be run directly from the cover disks. In common with most modern software it needs to tailor itself to your system and that job is left in the capable hands of the *INSTALL.APP* program. But don't worry, the whole process takes about twenty minutes and is well within the capabilities of any ST owner.

Your Atari ST needs at least 1Mb of memory and a double-sided disk drive. Our version of *Timeworks 2* will live happily with any printer capable of emulating a 9-pin Epson FX, including most 24-pins (but be prepared to face a slightly elongated page of 20% or so).

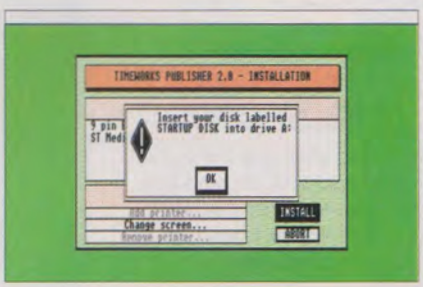
Before you go any further, be sure to copy your cover disks with the *STRBAKUP.PRG* backup program. On with the show...

SURVIVAL GUIDE TO INSTALLATION

- Label your two formatted disks "Start-Up" and "Fonts".
- Follow *ALL* on-screen instructions very carefully.
- If you're using a twin floppy system, make sure you put the requested disk into the correct drive.
- When you finish the installation, use Save Desktop in the Options menu to create a *DESKTOP.INF* file.
- Remember to reboot your ST once the installation is complete. If not, you will get "Internal Error" displayed on-screen.
- Write protect the *ST Review* cover disks but do *NOT* write protect the *Timeworks 2* Start-Up disk.

And the golden rule:

- Never, ever change a disk either during the installation or when you use *Timeworks 2* unless an on-screen prompt tells you to!



Read each dialogue box carefully and make sure you put the named disk in the correct drive.

FLOPPY DISK INSTALLATION

Start by switching on your machine and waiting a few seconds until the familiar desktop appears. Format two blank disks by following the instructions in your Atari ST user manual and once the procedure is finished, label the first **Start-Up** and the second **Fonts**. If you are using a colour monitor, switch to medium resolution at this point by using "Set Preferences" from the "Options" menu. You are now ready to begin the installation, so pop cover disk one in the drive, open a window by double clicking on the A icon and run *INSTALL.APP*.

The first decision that has to be made is where the program ought to live – if you only have one disk drive click on **Single Floppy**; if you have two, choose **Twin Floppy**. The screen resolution setting is equally easy to decide. In fact, the installation program automatically highlights the current resolution, so if you have any doubts about which button to choose, just click "OK".

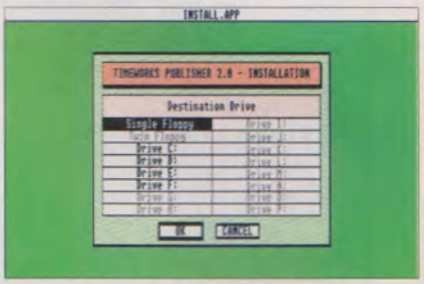
From here on, the procedure varies depending on whether you have one or two disk drives. Just be sure to follow the on-screen prompts very carefully and to put only the requested disk in the drive. After several swaps, you will be told that the installation was successful and returned to the desktop. Now all that remains is to reboot your machine, but before doing so make sure that drive A contains the **Start-up** disk and use the Save Desktop selection in the Options menu to write a *DESKTOP.INF* file to the **Start-Up** disk. If you're using a twin floppy system, make sure that drive **B** has the **Fonts** disk.

Timeworks 2 now has a home on your system and you can safely skip the next heading.

HARD DISK INSTALLATION

Hard disk installation follows along similar lines, although you won't have to face as many disk swaps. The first step is once again to run *INSTALL.APP* and choose which partition *Timeworks 2* should use as its base. The drive should have at least 1.3Mb of free space and should not contain a folder called PUBLISH. Next choose which screen mode you would like to use, bearing in mind that the installation program automatically defaults to the current resolution.

Just follow the on-screen prompts and after a few minutes you will find *Timeworks 2* alive and kicking within the PUBLISH folder on the chosen partition. It will also place a copy of *GDOS* within the AUTO folder on your boot drive (typically C), and write a fresh *ASSIGN.SYS* file. Use the Save Desktop selection in the Options menu to write a *DESKTOP.INF* file. Now just reboot your machine!



Floppy disk users should select the number of drives on their system at this point. If you are installing to hard disk, click on one of the highlighted partitions.

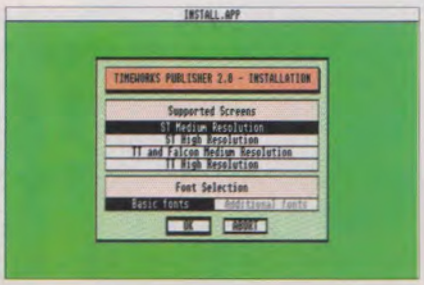
WE HAVE LIFT-OFF!

When the desktop appears, locate *PUBLISH.APP* (it will be in drive A on floppy machines and in the PUBLISH folder on a hard disk) and run it. Following a few seconds of disk activity the *Timeworks 2* banner will be displayed and you are ready to roll. Your first port of call should be the "Set defaults..." dialogue box which will allow you to tailor the program to suit your system.

There are a few things to remember when using floppy disks. The first is that the Start-up disk should never be write protected – you shouldn't be able to see through the little hole in the corner – and secondly, never, ever swap disks unless *Timeworks 2* asks you to do so. For example, when you load or save a document, click "Open/Save" and always wait until prompted before inserting a blank, formatted Data disk. *Timeworks 2* refers to any disk with files on it as a "Data" disk.

To make sure that the installation was successful click "Open..." and when the file selector appears, put cover disk one in the drive and locate *BUS_CARD.DTP*. Double click on its name and within a few seconds the business card designed in this month's DTP tutorial should appear on your screen.

The version of *Timeworks 2* on the cover disk is usable, but contains a watermark across the width of the printed page. However, the special edition does save files and any designs you create will load without modification into the full *Timeworks 2* package. Keep your eyes open for a very special upgrade deal...



The installation program recognises the screen resolution you are using, so it's usually alright to just click "OK" here.

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Please note that your program will be supplied in a mailing box – not in the full colour retail packaging shown.

ABOUT TIME

Powerful page designs are a piece of cake with Timeworks 2. Join Nial Grimes in a brisk stroll through the wonderful world of DTP...

Buried deep inside everybody there's a publishing baron struggling to get out. Very little can match the thrill of seeing your own work in print and thanks to this month's cover disk giveaway, you are in possession of one of the most powerful and intuitive desktop publishing packages available for the ST – *Timeworks 2*. The full version is capable of producing anything from business cards to newsstand magazines and this usable version will put you well on the road to successful DTP...

YOU'VE BEEN FRAMED

The first step in producing any design is to set up the page dimensions (Figure 1). *Timeworks* starts by giving you a blank A4 sheet which is fine for most purposes, but the six-column guidelines are quite impractical. To change them, choose **Set column guides...** from the **Options** menu and reduce the number to one (Figure 2). Your page is now ready for some additions.

The panel of icons towards the top left of the screen indicates which of *Timeworks*' four modes of operation you are using (Figure 3). The default is **Frame** in the top left. Working in an anti-clockwise direction, the others are **Text**, **Paragraph** and **Graphics**. Let's take a look at them one by one...

Timeworks is a "frame-based" DTP package, which means that each element you position on the page – be it text or a picture – has to be given its own little box. To create a frame, simply position the mouse over the document window, hold down the left button and drag. Clicking within the boundaries of any frame causes the sizing handles to rematerialise (Figure 4).

Notice how the more recently drawn frames appear in front of the older frames.

This is deliberate and it allows some interesting overlay effects to be created. Naturally there are times when frames will appear in the wrong order and this can be corrected with the **Bring to front** and **Send to back** menu options. If disaster strikes, select the offending frame and simply "Cut" it from the page.

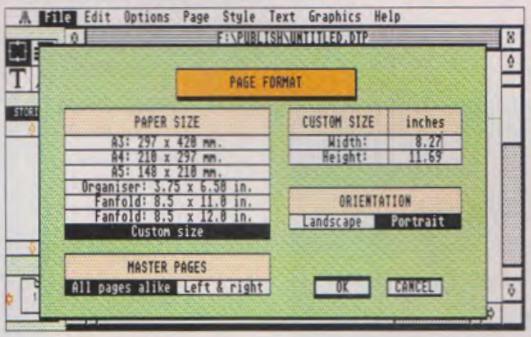


Figure 1: If the standard A4 page size isn't what you need, choose New from the File menu and select something more suitable.

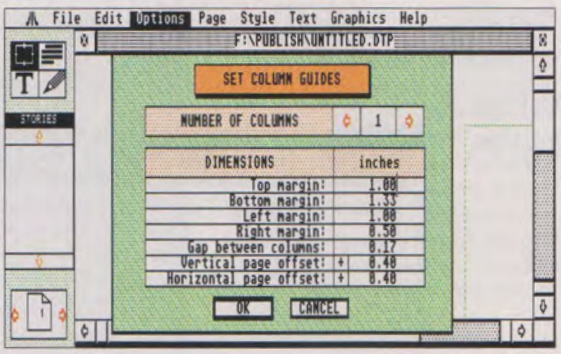


Figure 2: The column guides dialogue box allows the make-up of the page to be changed in a wide variety of ways.

HIT THE HEADLINES

Once you're used to working with frames, no doubt you'll want to put something in them and the text tool (Figure 3) allows you to do just that. By clicking on a frame with the text icon selected, you can type directly onto the page. Don't forget to adjust the view size though, otherwise the words will be too tiny to read (Figure 5).

Of course, the text needn't stay that small forever! Timeworks will allow you to work in a wide range of typefaces – often referred to as fonts – and sizes. To adjust the size of a portion of text, first drag the mouse over the required words with the left mouse button held down.

Once the bits you want to change appear in reverse video (white on black) you can begin to experiment with the **Font/size** dialogue box – go on, give it a try! The same technique is used to add italic, bold, underlining and numerous other effects to your text.

This method of entry is fine for headlines, but as you can imagine it can get very tedious when working with larger amounts of text. The

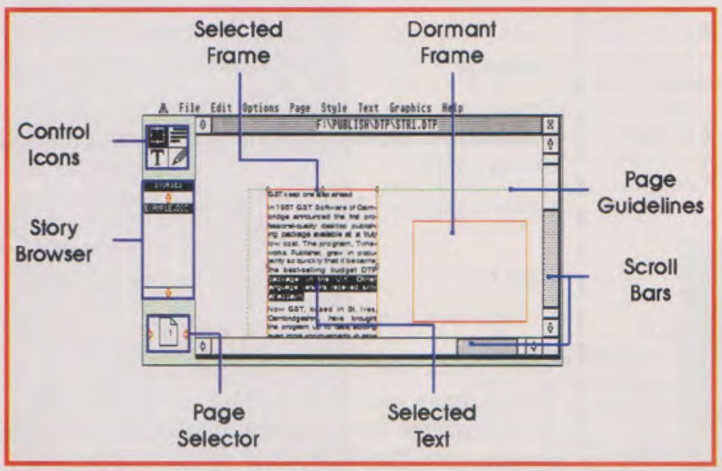


Figure 3: The makeup of a standard Timeworks document.

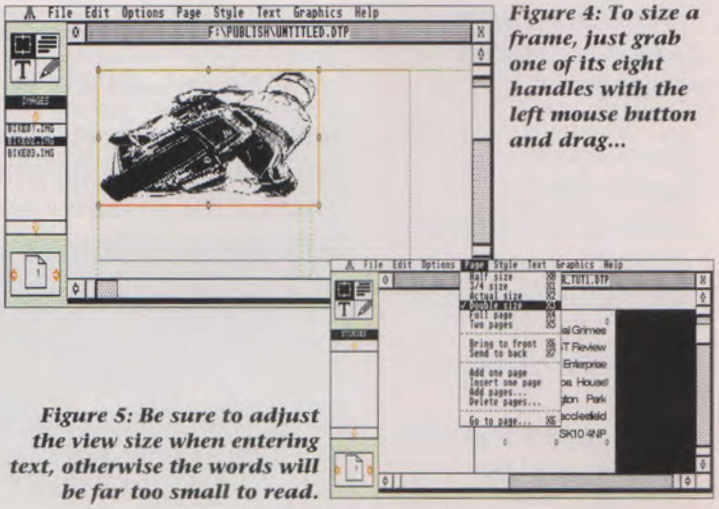


Figure 4: To size a frame, just grab one of its eight handles with the left mouse button and drag...

Figure 5: Be sure to adjust the view size when entering text, otherwise the words will be far too small to read.

TOO!

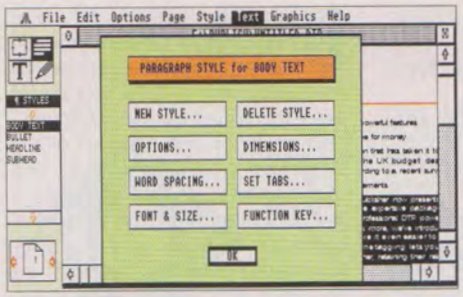
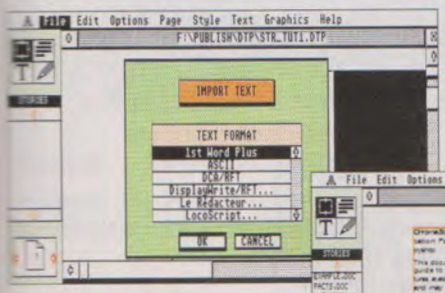


Figure 8: A paragraph style contains much more than font information – every aspect of the text can be fine-tuned to suit your needs.



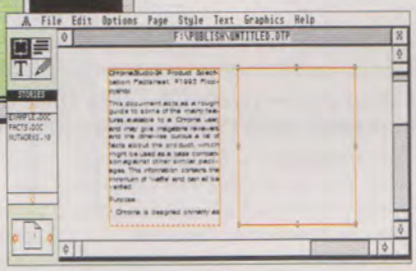


Figure 6: A large range of text formats can be dealt with.

Figure 7: Flowing text over multiple frames is child's play with Timeworks.

solution is to **import** documents that have been prepared in a word processor, such as *Protext* (Figure 6). Once again, the same principle of selecting a frame and then choosing a menu option applies – this time use **Import text** from the **File** menu. A number of different formats can be handled; all of the demonstration files on this month's cover disk are in *1st Word Plus* format.

Whenever any text is imported, the name of the file will automatically appear to the left of the screen, in the **browser**. This allows you to flow longer documents over a number of frames. For example, to share the demo text on the cover disk between two frames, you would import into the first, click the second and then pick *DEMO.DOC* from the browser – clever huh? As you move and size the frames, *Timeworks* will automatically flow the text to suit, and needless to say this works over any number of frames (Figure 7).

As you begin to work with longer documents, you will tend to find the same styles and point sizes cropping up over and over again – one for headlines, one for body text and so on. The paragraph icon is an extension to the text handling tool which makes it much simpler to deal with this situation. Let's say that all of your body text is going to be 8 point Swiss, with certain paragraphs (maybe letters on a question page) highlighted as Swiss italic. By defining a number of "paragraph styles", you need only click within the block of text to change, choose a style from the browser and the whole paragraph will be magically transformed. The default style is called "body text", and it can be altered to suit your needs by highlighting a paragraph of text and choosing the **paragraph styles** menu option (Figure 8).

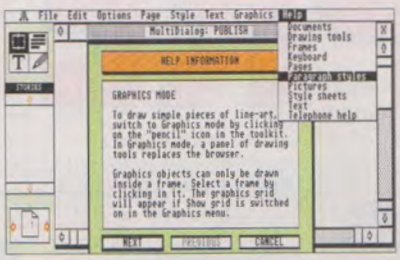


Figure 9: Don't forget, on-line help is always at hand should you get really stuck.

GET THE PICTURE?

Nothing brightens up a page of text more than a good picture and *Timeworks* makes it very easy to incorporate these into your designs. In addition to the internal drawing tools, you can also import graphics in a wide range of ST, PC and Amiga formats.

If you've managed to get some text into your document, pictures will pose no problem at all – the technique is identical, only this time the **Picture import** menu option is used. Colour pictures are automatically dithered to two colours, if you're working in high resolution, and as you size graphics frames *Timeworks* will automatically stretch the picture to fit.

The whole prospect of DTP can seem baffling at first, but once you pick up the basic techniques the design process will become more natural. If you do run into difficulties, it helps to remember that in order to perform most operations, you need to have a selected frame on screen. Other menu options require that something within a frame is selected and, as always, experimentation is the key.

On-line help is available if you get completely stuck (Figure 9) and do remember to save your work regularly to avoid accidents. It would be impossible to cover every aspect of such a powerful package in one small feature, but never fear we will be going into more detail through our DTP tutorial series, the first part of which can be found on the next page of this very issue! Have fun with *Timeworks*!

GRAPHICS TOOLS

In addition to import facilities, Timeworks also has its own range of drawing tools. These are all linked to the graphics icon and are very straightforward to use if you've had experience with a GEM art package. The usual mixture of clicking and dragging is used to create shapes within a frame and "polylines" can be completed by double-clicking after you've positioned the last point. To reposition the shapes, use the pointer tool.

The advantage of using internal graphics is their quality. In common with GEM metafiles (created by programs such as Easy Draw), pictures drawn with the in-built tools exploit your printer's resolution to the full.

BORDERING ON THE IMPOSSIBLE

Take a good look at any magazine and you'll be surprised at just how many lines and boxes are used to break up the elements on a page. Timeworks provides a very easy way to mimic this effect through its Frame tint and Frame border menu options. These effects can be applied to any frame including those containing text, but it's good practice to create one specifically for the job in hand.

There are two things to remember when playing with tints and borders: firstly, they should be positioned behind other frames and secondly, remember to switch Repel text off if formatting becomes a problem (Figure 10). If you're looking for some trendier shapes, the internal drawing tools can come in very handy (Figure 11), or alternatively you can import primitives created with Easy Draw 2.

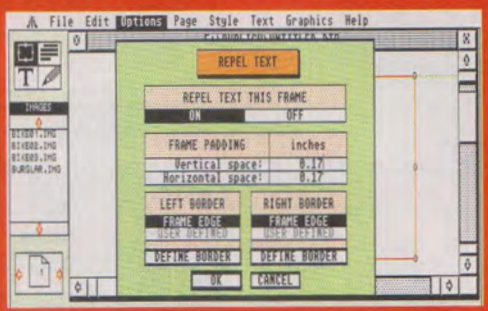


Figure 10: Frames "repel" text by default, so if you run into formatting problems try turning this option off.

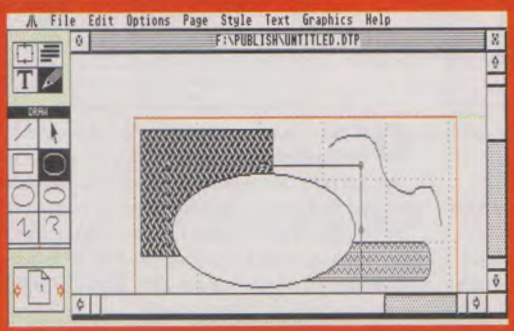
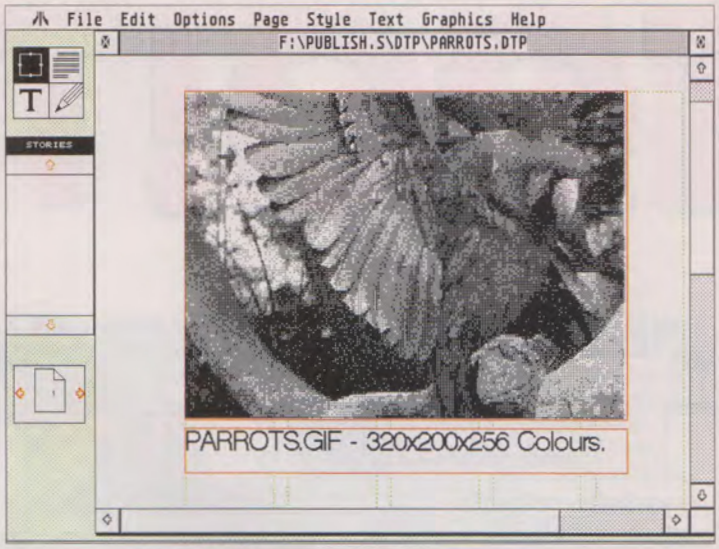


Figure 11: Timeworks' own drawing tools can be used to create some interesting alternatives to tinted frames.

Fonts, leading, kerning, guidelines – what does it all mean? Nial Grimes starts a new series of DTP tutorials and helps you take the first tentative steps with Timeworks 2

Desktop publishing is the art of page layout on a computer. Almost every magazine you read and every circular you throw away these days has been electronically mastered and the days of the traditional typesetter are well and truly numbered. In fact, revolution is too mild a word for the effect that computers have had on the publishing industry. Mix the equipment on your desk with *Timeworks 2* and you have a typesetting system that can surpass almost anything available traditionally.

The only complication in this perfect picture is the jargon – most of the terms used in desktop publishing are a hangover from the exclusive world of the professional typesetter and bear little relation to our familiar computing vocabulary. So before we get too involved in design, let's learn a little of the lingo...



Colour pictures are dithered to allow them to be printed realistically on mono printers.

FOUNTAIN OF YOUTH

Timeworks is a WYSIWYG (pronounced "whizzywigg") desktop publisher, which means that each line and picture you put on the page will appear exactly the same when you print it out – in other words, What You See Is What You Get. This is easily illustrated by switching the rulers on from within *Timeworks*.

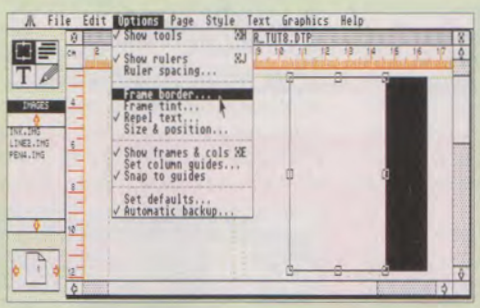
The same goes for any type you put on the page. Unlike most word processors, you actually see the shape of the letters on the screen. As you've probably noticed there are thousands of different typefaces available and in computing terms, each is called a **font**. In your journey through *Timeworks* you're likely to come across three different types of fonts – serif, sanserif and decorative. Serif fonts are easily recognised by the tiny strokes across the end of each letter, whereas sanserif fonts lack these marks. Most magazines use a sanserif body font because of the

STOP PRESS!

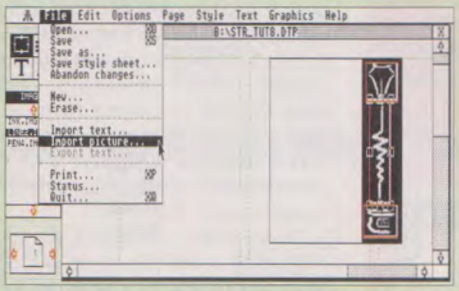
STEP BY STEP

TRICKY BUSINESS

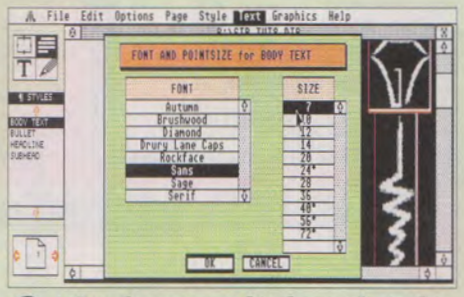
Business stationery is a popular use for Timeworks, so let's put together a trendy business card. Before you work through the tutorials, it will help to take a look at the finished article, which can be found on this month's cover disk.



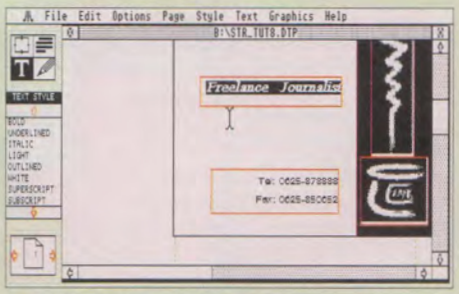
1 ***The first step is to create the background for the card. This is formed from two frames, one of which is bordered and the other tinted black. Aim to make the whole thing 6cm wide by 9cm high.***



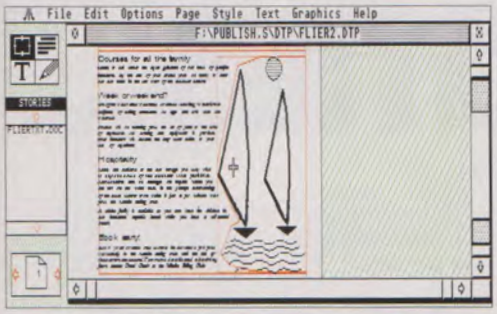
2 ***Now draw three frames on screen and import the picture files (INK.IMG, PEN.IMG and LINE.IMG). Switch "Snap to guides" off and drag them into position as shown above. If these pictures don't suit your business, you can prepare something a bit more suitable with almost any art package.***



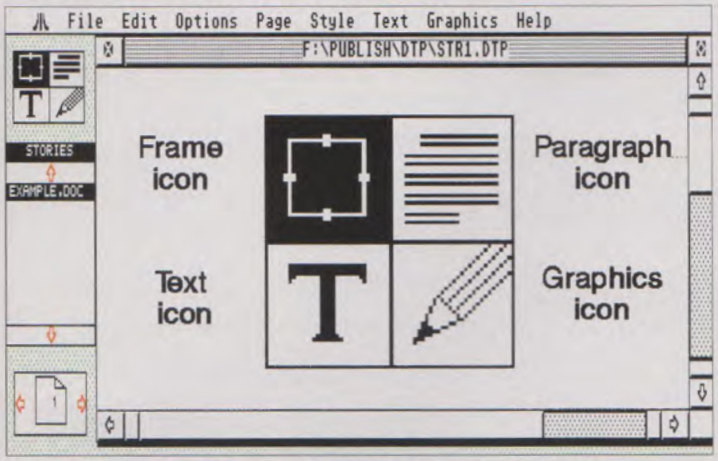
3 ***A few changes need to be made to the default paragraph style, so select the paragraph icon and click on "body text" in the browser. Choose "Paragraph style" from the "Text" menu and adjust the font settings to read "Sans/7 point". Finally choose "Options" from the same dialogue box and click "Flush right".***



4 ***All that remains now is to add the text itself. Once again three frames are used; one for the name and address, one for the occupation and another for the telephone and fax numbers. It's a good idea to highlight the name and occupation by using a slightly different font (Serif, 12 point, to be precise).***



Text effects that were almost impossible to achieve using traditional typesetting techniques are two minutes' work with a desktop publisher!



By switching off the frames and guidelines, you can get a better idea of what the finished article will look like.

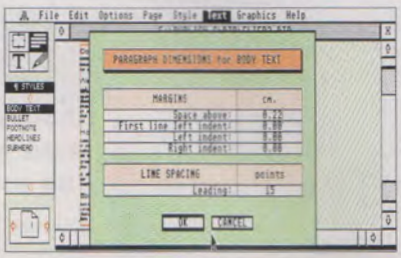
clarity at small sizes. The decorative category swallows up most of the other fonts available – they're usually a little bit more difficult to read, but can be very effective when used sparingly.

Not only are you given control over the shape of type, but also its size and position on the page. The gap between each line of text is known as the **leading** (pronounced "ledding") while the space between each character can be adjusted by **kerning**. All of these attributes are twiddled through *Timeworks'* paragraph style dialogue. When it comes to type, measurements are made in **points** which is about 1/72 of an inch – a 72 point font is 1 inch tall.

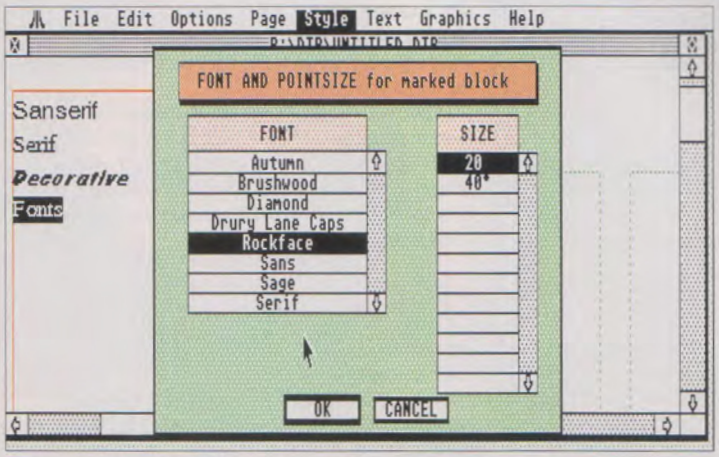
PICTURE THE SCENE

Text and graphic effects that were almost impossible using typesetting techniques are simplicity with a desktop publisher. For a start, you can see exactly how graphics and text look alongside each other and if you don't like what you see, you can change it within seconds! Text can even be sculpted to follow the line of a picture, or **flowed** around it as we say in DTP-land.

There are two types of pictures that you can use within a document – bitmapped and vector. The first is the easier to understand because it's just a collection of black and white dots so the bigger you make the picture, the more jagged it will become. Vector graphics on the other hand are made up of a series of instructions to build a picture – they are constructed on the fly to suit the resolution of your printer and so remain clear however large you print them. *Timeworks* can import both flavours with ease – a file with a .GEM extender is a vector image, while most of the other formats on offer (IMG, IFF, PI1 and so on) are bitmapped.



The leading, or space, between the lines of text can be adjusted through Timeworks' paragraph styles dialogue box. The defaults are fine for most purposes.



In computing circles, typefaces are known as fonts. These are measured in points, each of which is 1/72 of an inch.

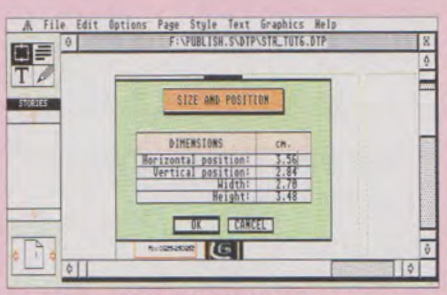
PAGES AND PAGES...

As you begin to work with longer documents, you'll find it useful to be able to position frames in the same place on every page. The little green lines you can see on your *Timeworks* screen are for just this purpose – they are **guidelines**. As you draw a frame it automatically "snaps" into the right place, so it's very easy to keep your columns in exactly the same position on every page. To adjust the position of guidelines in *Timeworks*, use the "Set column guides" dialogue box. Once you've come up with the right set-up, it can be saved as a style sheet and loaded whenever you create a new document – just try clicking "New" in the "File" menu.

Desktop publishing jargon can seem frighteningly complex at first – almost like a totally different language – but persevere and you'll soon be speaking it like a true native; you've already learnt all of the basics. In the meantime, play with *Timeworks*, set yourself small projects and goals; our business card is a good start, but don't stop there!

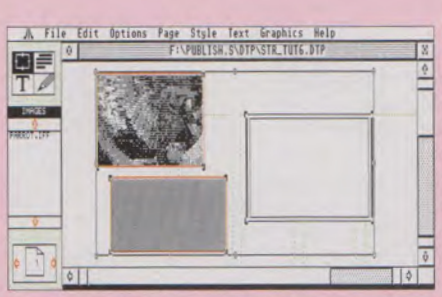
From the moment you drew your first frame on the page, you were a layout artist. The tricky part is to live up to the name, and we'll be attempting to help you do that throughout the rest of this series...

TIMEWORKS TIPS



Any frame's width, height and position can be fine-tuned by double-clicking within its boundary.

● **Frame positioning** Sometimes the mouse just isn't accurate enough to position a frame exactly where you need it. To get around the problem, simply double click on a frame and enter the new coordinates by hand.



"Grouping" allows multiple frames to be dealt with as a single entity, but only as long as they remain selected.

● **Frame grouping** It's often handy to be able to deal with more than one frame at a time – to make a copy of our business card for example. By holding down the <Shift> key when you drag the mouse over a selection of frames they will be temporarily stuck together, or "grouped", until deselected.

● **Deleting and copying frames** To remove unwanted frames from a document, simply select them and choose "Cut" from the "Edit" menu. A similar method is used make a duplicate of a frame, only this time the "Copy" and "Paste" menu options are used.

● **Ruler spacing** Timeworks defaults to inch measurements, which can be a little bit awkward if you're used to working with centimetres. You can change the system used throughout the program through the "Set ruler spacing" dialogue box.

THE BEST UTILITIES...

... are all on the second cover disk!

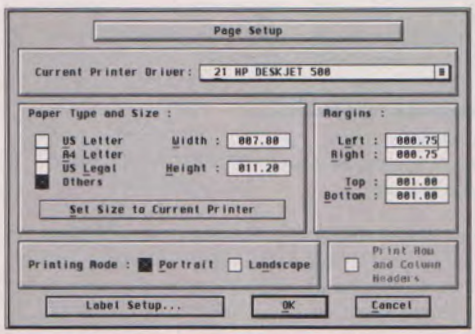
LET 'EM FLY

SYSTEM UTILITY • FREEWARE BY OLIVER SCHEEL • ALL RESOLUTIONS

A clever little utility that does more than just fly...

Let 'em Fly adds keyboard shortcuts to alert and dialogue boxes making them much quicker to use. Any editable parts are greatly enhanced and you can position the cursor anywhere you like via the mouse. Foreign characters can easily be accessed by pressing <Shift> and <Insert>.

Install by copying *LETEMFLY.PRG* into your AUTO folder. A configuration accessory and CPX module let you customise the program.



One of Let 'em Fly's features is full printout control...

SHELL BUFFER

SYSTEM UTILITY • FREEWARE BY MARTIN OSIEKA • ALL RESOLUTIONS

Solve that annoying desktop bug...

Versions of TOS featuring the new desktop (TOS 2.0x or later) may cause corruption of NEWDESK.INF files larger than 4Kb. And no warning – the ST behaves perfectly until the next time you boot when it becomes confused, forgets keyboard shortcuts, complains about lack of memory and so on. Sounds familiar? Then you need *SHBUF*!

Extra memory is allocated to the desktop (set by the file name) and *GEMRAM* must be run before it. A recommended value is 8Kb – rename the file to *SHBUF8.PRG* and copy it into the AUTO folder.

NOSEY

SEARCH UTILITY • DEMO BY F10 SOFTWARE • HIGH/MEDIUM RESOLUTION

If you need to find a word or sentence in a folder full of files, Nosey can help...

Nosey is a fully working demo that times out after 15 minutes. It offers a wide range of search facilities and runs as a desk accessory.

To run *Nosey*, place it in the root directory of your boot disk and reset the machine. *Nosey* should now be available from the Desk menu.

THURG 'N' MURG

PLATFORM GAME • EXCLUSIVE BY MAJICSOFT • LOW RESOLUTION

A superb game courtesy of the Majic Arcade Graphics Engine...

Thurg 'N' Murg is an excellent platform game in which you must pick up the small ruby-coloured Ziggy rings before advancing to the next level. If you complete the level before the timer (green bar at the bottom of the screen) runs out, you get a bonus screen.

Thurg can fire, jump and run. These powers can be enhanced by collecting potions (shot speed), Super Ziggy Rings (big blue rings) and various other pick-ups. If Thurg is caught by a monster, he loses all enhanced abilities...

AUDIO CALC

MUSIC UTILITY • DEMO BY GRAHAM HINTON • HIGH RESOLUTION

A powerful music and audio calculator...

Audio Calc is an essential utility for any musician. It works out delay times based on tempo, disk requirement for digital audio, pitch change from tape speed variation and even the time taken for sound to travel allowing for room temperature!

To use, run A_C_DEMO.PRG and click on the Calculate button. Some features in the demo version are disabled.

SilkMouse – mouse accelerator and screen saver rolled into one...

SILKMOUSE

MOUSE UTILITY • FREEWARE BY MARK SLAGELL • ALL RESOLUTIONS

The smoothest mouse accelerator and screen saver...

SilkMouse is a unique mouse accelerator and screen saver – it produces very smooth, fully adjustable mouse control to suit your requirements. The screen saver gradually fades the screen out.

To install, copy *SILKMOUS.PRG* to your AUTO folder, *SMC.ACC* to the root directory of your boot disk and reset the system. Alternatively, you can use *SMC.CPX* if you have *XControl*.

GEMRAM/WINX

SYSTEM UTILITIES • FREEWARE BY MARTIN OSIEKA • ALL RESOLUTIONS

Winx gives you 40 windows and much more besides...

Winx modifies GEM and removes many of its deficiencies, including the seven window limit. It speeds up window drawing, lets you move windows beyond the left edge of the screen and fixes many GEM bugs along with adding new functions such as real-time scrolling!

Winx requires *GEMRAM* which loads GEM into memory so that *Winx* can modify it. Copy *GEMRAM.PRG*, *WINX.PRG* and *WINX.INF* into your AUTO folder – *GEMRAM* before *Winx*. The configuration CPX for *Winx* is in German and sets the window scroll delay.

IF YOU HAVE PROBLEMS WITH YOUR COVER DISKS...

DON'T PANIC!

In the unlikely event that your cover disk won't load or gives you any other problems at all, remove any peripherals and try again. To restart your computer, SWITCH IT OFF for at least 20 seconds to clear all traces of resident programs before continuing.

If this doesn't solve your problem, return your disk, with a stamped addressed envelope to; P.C. Wise Ltd., Dowlais Top Business Park, Dowlais, Merthyr Tydfil, Mid Glamorgan, CF48 2YY. PC Wise will test the disk and send a replacement as soon as possible.

You can contact the PC Wise Helpline with any urgent problems concerning faulty disks. PC Wise can be contacted by telephone on 0685 350505 between 10.30 and 12.30 on weekdays.

Power Programs Without The Price

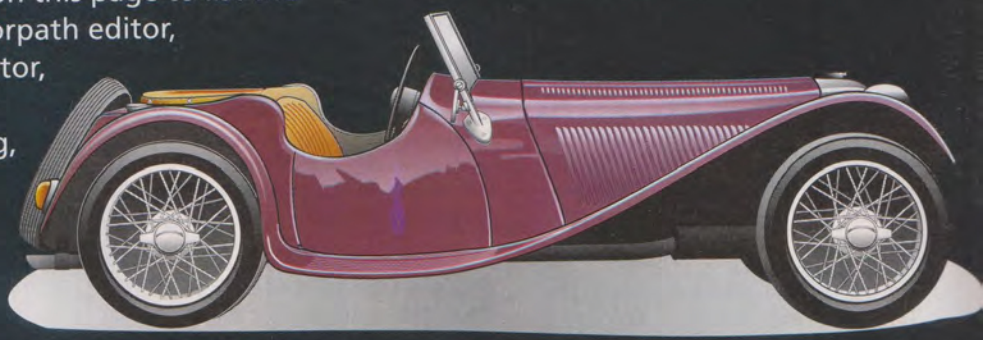
Inshape

Inshapes begins with the modeller, which has a variety of tools such as spin, extrude, and a template editor. Many built in primitive like cube, sphere, disc, cylinder, and tube are also included. Models can be assembled from component objects using up to 16 layers. Manipulation tools means an object can be moved, rotated, scaled to an accuracy of 0.0001mm. A wide range of materials are provided including metals, stones, plastic, wood, glass and sand. Many textures are available from marble to multi coloured spots. Even features such as bump mapping, image mapping, and waves are possible. Models can be illuminated, positioned and animated in the scene editor which in turn is your 3D world.

"A feature-packed modelling package that deserves to take the market by storm." David Nilson. ST Review December 1993.

DA's Vector

The essential graphics, animation and presentation tool.
DA's vector is a colour vector graphics program for any Atari ST(E)/TT and Falcon computer, with at least 2MB of memory.
Unfortunately, we don't have sufficient space on this page to list the 100's of features included, like the tracer, vectorpath editor, 3d extruder, vector morphing, keyframe animator, graph and chart generator, picture converter, colourfade generator, freehand bezier drawing, to name but some of the features that combine to make this program not so much a tool as a fully equipped graphics workshop.



"If we were to pick just one winner, without doubt this would be it."
Atari ST User 1993 Awards.

Chagall Limited

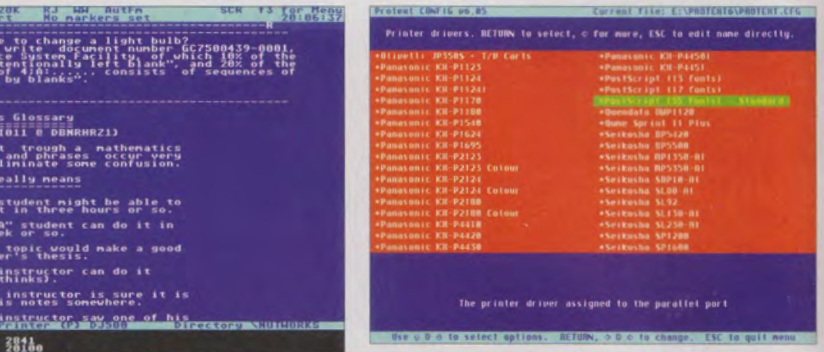
Chagall is a pixel based image processing software package that not only uses the well known standard tools from most image retouching packages, but also has new creative tools which allow you to create stunning pictures which do not look as if they have been computer generated.
Some of the main features are: MultiTos compatible, 8Bit masking, rotate to 1/100 degree, full drag and drop between pictures, clear and intuitive interface.

Please note that InShape requires a maths co-processor and works with an Atari TT or Falcon, priced at £149.00. DA's Vector is £149.00 and DA's Vector Pro is scheduled to be approx £249.00. Chagall Limited is £149.00. The Tabby Graphics Tablet is £49.95 and DigiTape Lite is on special offer at £99.00 with a copy of this advertisement, until Feb '94. CGS ComputerBild may be contacted on 081 679 7307 for orders and further information, or write to us at:
231 Northborough Road, Norbury, London SW16 4TU.

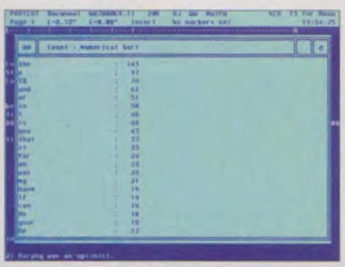
THE WRITE STUFF!

Fasten your seat belts and get ready for a bumpy ride – the speed king is back! Boasting graphics import and a thesaurus, is Protext 6 finally set to take the market by storm? Nial Grimes investigates...

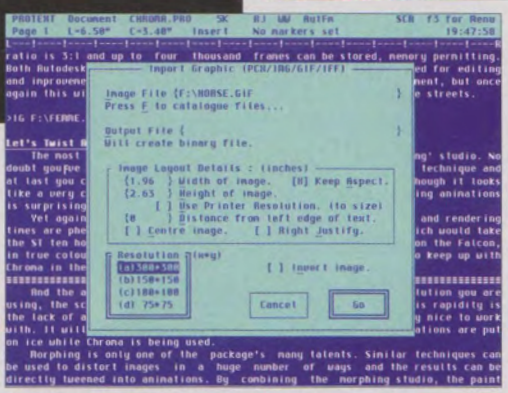
It may seem primitive, but once you get used to using the CLI it's far quicker than messing around with menus.



Most printers are directly supported, including Post-Script which is new for version 6.



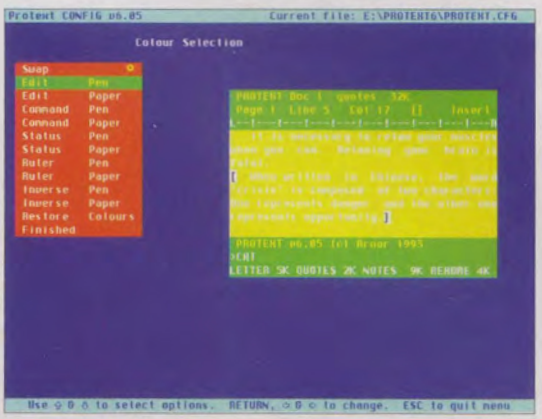
The document analysis button produces not only a word count, but also a complete breakdown of word usage.



Pictures in four popular formats can be dragged directly into your documents, although no attempt is made to display them on-screen.

ST word processors have travelled a long, long way since the days of *1st Word*. From a time when even spell-checking was considered a luxury, we've arrived at a point where graphics import, multiple fonts and a thumping great thesaurus are considered the barest of essentials.

The trouble with most "document processors" is that they forget their role in life; banner size fonts and a breath-taking screen display are all very well, but where does it leave you if the program moves no faster than a snail on Valium? Fortunately, it's a criticism that can't be levelled at *Protext* – this is one package that has always held text crunching as its number one priority. Version 6 promises to move the package closer to the competition in terms of output quality without compromising its reputation for speed – no mean feat!



Every aspect of the program, from cursor height to screen colours, can be fine-tuned to suit your exact requirements.

COLOUR CLASH

As you eagerly rip open the packaging, a total of four double-sided disks and two stout manuals fall to the floor. The installation is fully described in the first of these and varies depending on the system you are using. In common with version five, it will run on any ST with a meg or more of memory and is fully TT-compatible – Falcon owners will face one or two small problems, as we shall go on to see.

The whole installation process takes about ten minutes once you've dodged the PC sections in the dual-purpose manual and the next stop is the configuration editor. This daunting beast lets you tailor every aspect of the program to your liking – from the margins to the shape of the cursor.

Most of these refinements can be avoided at this early stage and it's enough to choose which printer driver you want to use and to set up the screen colours.

For Falcon owners, this is where the complications begin. The TT's default colour palette differs from the Falcon's and the result is a banana yellow background with fluorescent green menus and white text. If you screw your eyes up and sit about two inches from the screen you can just about read the text, but only just! Naturally, your problems are over once you reach the configuration editor itself, but the moral of the story is to install *Protext* in mono on the Falcon – or buy some very dark sunglasses! Enough whingeing, let's get on with the show...

Imagination...

from
TITAN Designs Ltd
6 Witherford Way, Selly Oak
Birmingham B29 4AX

Tel/Fax: 021-414 1630

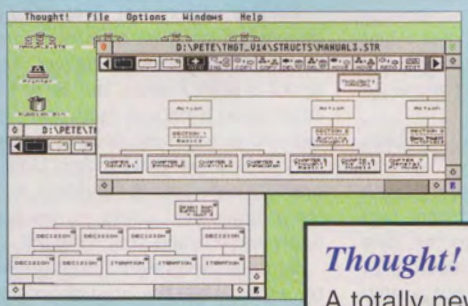
graffiti Video Genlock

Overlay text and pictures onto video with the powerful graffiti genlock. Supplied with ImPro Animate software. New features include composite video output, overlay and transparency.
Suitable for any ST or Falcon

ImPro Animate

Fully modular and extensible video sequencer, designed to make your video productions come to life

Falcon Price: £179.95
STE Price: £189.95
STm/fm Price: £209.95

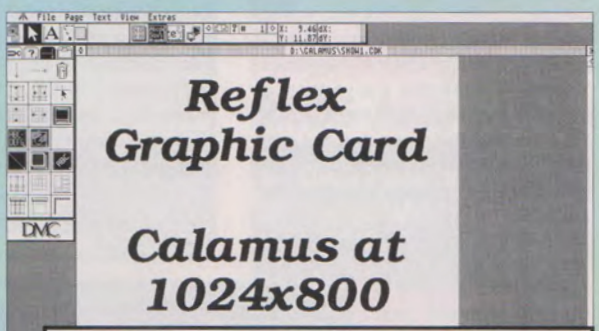


***Introductory Price held until 31.12.93 thereafter £69.95**

Thought! Ideas Processor

A totally new concept for the Atari system and essential for any type of development work. Structures can be easily edited, linked to programs & files and then launched from the *Thought!* shell.
Full support for MultiTOS, Speedo GDOS, NVDI, Reflex Card and compatible with all Atari computers.

Price: £49.95*
(Demo disk available)



Reflex Graphic Card

The amazing Reflex Graphic Card has never been cheaper! Reflex has proved time and again to be the most compatible, fastest and cost-effective graphic card available – it even **supports Spectre GCR!** Resolutions can be achieved on the **SM124 up to 1024x960!** A full virtual screen is supported along with Zoom and Emulation modes.

NEW PRICE: £199.95
STE Version – add £25

Coming soon

Fresco

Fresco Studio Quality Video Genlock

Manual control over separate RGB signals, fade to black or white, brightness, chromakey and support for overscanning. Supplied with the powerful ImPro Design sequencer for complete flexibility.

eXposé

eXposé True Colour, Real Time Capture Digitiser

Grabs images in True Colour at 25fps with resolutions to 512 x 512. No need for separate RGB filters as 16-bit True Colour images are processed on-the-fly! Interfaces directly onto the Falcon bus with adaptors available for Atari ST/TT. Supplied with ImPro Capture software.

ChromaStudio 24

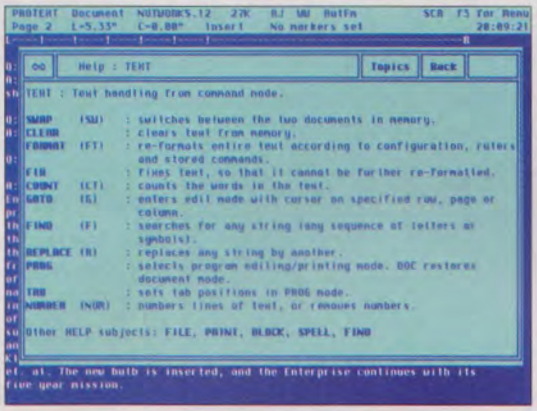
A 24-bit True Colour Art, Animation, Image Processing, Morphing program for the Falcon! An absolutely stunning specification with all processes being handled in Real Time.
Chroma promises to set the standard for which all other Art & Animation programs will try to achieve!

WORDS AND IMAGES

Existing *Protext* users will be immediately at home with this latest incarnation. The interface remains virtually unchanged and that enormously powerful mail merge language still beats steadily below the crude surface. In fact, the new features have been blended so skilfully with the old package that you have to dig to find them.

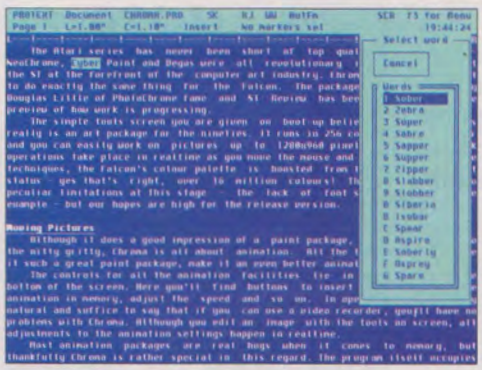
The ability to control everything by keyboard has always been one of *Protext*'s strong points and the legend continues into version 6 – we are talking absolute control here. Almost every menu item has a keyboard equivalent and if it doesn't, you can drop into the CLI for an alternative. If the command line approach is a little heavy going, you can assign the operation to a keyboard macro. And the menus are always up there if you need them.

Of course, configurability is no good at all without power, and *Protext* supplies this in copious amounts too. There's the dictionary, containing well over 100,000 words, and an enormous thesaurus which is capable of nearly 850,000 responses. You might think that the vastness of the spell checker would in some way slow the package down, but not a bit of it – it charges through huge documents in seconds and even has a few extra tricks up its sleeve. Anagrams can be solved, words searched for by pattern and lists built from unrecognised words, which is very handy for designing custom or technical dictionaries.



On-line help on any aspect of the program, including the infamous CLI, is never far away.

As you've probably realised by now, *Protext* is a real demon when it comes to dealing with large amounts of text. Journalists and writers will love the word counter which not only details the number of words in a document, but also the number of paragraphs, the average length of sentences and even the number of different words! At first sight, it may seem pointless to be given so much information, but it's a real aid in improving your writing style. For example, the word frequency dialogue makes it easy to pick out style problems, such as using the same expression twice within a few sentences.



The spell checker is wonderfully fast and the suggestions are on the screen before you have time to blink!

It's a master at handling printers too. Every single font your machine can muster is given space in the style menu and the latest version will deal with scalable fonts, hardware permitting.

Even colour is given consideration these days, although to call its support "basic" would be an understatement – yes, your marvellous 24-bit inkjet will be able to produce exactly seven colours under *Protext 6*! As always, bold and italic is about as close as you get to WYSIWYG and there's still not a hint of software fonts, but I suppose we'd better leave Arnor a few features to include in *Protext 7*...

In general font handling has been improved dramatically. You no longer need width tables to deal with proportional fonts and custom tags can easily be slotted into the style menu – very useful for PostScript printers. As a result, output quality and the style of your documents is now limited by your printer, not by the program itself.

Protext fans will be pleased to hear that the scrolling is ludicrously fast and all those nice little touches are still there – the clock at the top of the screen, the fifty line high resolution screen mode, the ability to move up and down a document by clicking at the top or bottom of the display and so on. Wonderful!

WHAT'S NEW PUSSYCAT?

Nowadays, no word processor is complete without some form of graphics import facility and this has to be the single biggest upgrade *Protext 6* has to offer. Pictures in IMG, PCX, IFF or GIF format can be imported directly into your documents, although they – like the scalable fonts – are not displayed on screen. Instead, you're simply given a line of text detailing the name of the picture and its dimensions which is a bit clumsy, but it does work and the final copy is of exceptional quality on a good printer. As for flowing text around pictures, you can forget it!

The main criticism levelled at the package over the years has been its austere interface and Arnor have tried hard to remedy this problem. In order to keep existing users happy, no real changes have been made to the menus themselves, but on-line assistance is now available at any point by simply prodding the <Help> key. This covers the CLI as well as the mouse-driven interface, and is helpful if a little brief.

On-line help or not, *Protext*'s CLI demands a good set of manuals and Arnor haven't failed to deliver. The layout is quite intense, but all of the information is packed neatly into the two tomes and both complemented by a whacking great index. Unlike previous versions, the binding is of the spring-loaded variety – move one finger and it'll have your hand off!

Business users haven't been forgotten either. While the latest generation of graphical word processors struggle to provide even basic mail merge facilities, *Protext* lives and breathes data management. *Promerge* is nothing short of a full programming language and it just laps up everything from simple circulars to full conditional letters – there really is no beating it. The penalty that has to be paid for this degree of flexibility is ease of use – the rest of the package may have been graphically tamed,

JARGON JOGGER

WYSIWYG – What You See Is What You Get. Document processors offer a high degree of WYSIWYG, whereas *Protext* rates speed over its screen display.

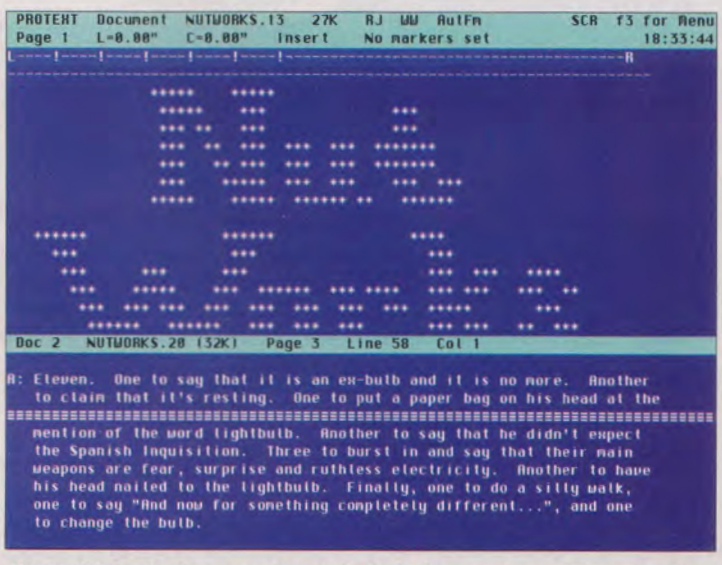
Style Tag – A named combination of font and characteristics is termed a "style tag". They are extremely handy for producing consistent looking documents.

CLI – Command Line Interfaces allow actions to be typed, rather than chosen from a menu. In this way, even complex operations can be performed without leaving the keyboard.

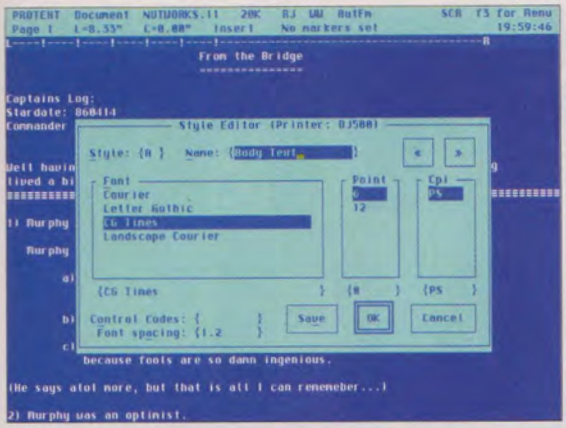
Macro – A macro is a stored sequence of events that can be replayed at any time from a keystroke.

RTF – Rich Text Format was designed by Microsoft to replace ASCII. It includes information on styles, columns and fonts and is supported by almost all PC word processors.

Mail Merge – The process of combining stored information with a single word processed document. It's often used to personalise, or add addresses, to circulars.



Up to thirty-six documents can be held in memory, although only two can be displayed simultaneously.



If your printer offers a number of fonts, the style dialogue will come in very handy.

COMMAND AND CONQUER

***Protext*'s soul lies in its command line interface. A simple prod of the <Escape> key is enough to drop you into command mode and from here simple keywords can be used to access everything from a straightforward format to a complete file conversion.**

'"Why should I bother with a CLI when there's a mouse-driven interface?" I hear you cry! Well for a start it's much quicker. By the time you've grabbed the mouse, waited for a menu to drop, and waded through half a dozen dialogue boxes, the CLI user will be relaxing in front of his third cup of tea!

Most of the keywords are very logical and follow a similar pattern to MS-DOS. For example, "FIND dog" will search for all occurrences of the word "dog" within a document – easy really, innit? When you become a real *Protext* expert the commands can be shortened even further – "ct" for "count", "ca" for "calc", "ab" for "abandon" and so on.

The nice thing about *Protext* these days is that you're not forced to use the CLI – it's there if you need it, but can be avoided if you don't.

but mail merging still requires that you get your hands dirty from the word go; very dirty, in fact.

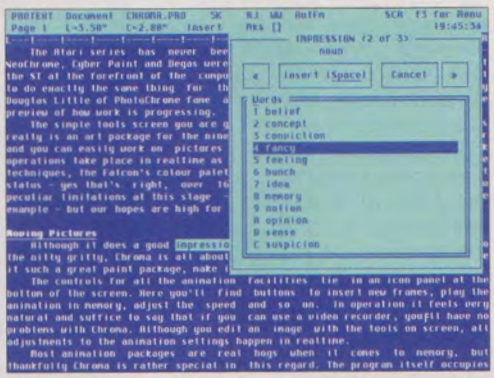
Fortunately, one thing that hasn't changed is *Protext*'s document format; all of your old literary masterpieces can be loaded directly into the new version without any problems at all. What's more, it's one of the only ST word processors to genuinely support the Rich Text Format (RTF), albeit through an external utility.

VERDICT

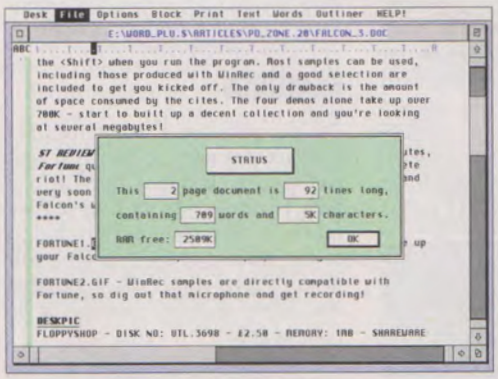
In use, the new *Protext* feels very slick and you can hardly believe it's the same program that used to grace Amstrad PCW screens across the land! Its reputation for speed isn't tarnished in any way by this latest incarnation and while the enhancements are mind-blowing they're well thought out and very welcome.

That big bone of contention – ease of use – has finally been laid to rest with a few strategically placed dialogue boxes, and the on-line help removes the need to have a manual constantly perched on your lap. It's still not a document processor by any means, but ask yourself how many times you want to use hunky headlines or flow text around pictures and I think you'll agree that the sacrifice is worth the extra speed. Of course, there are arguments to say that it should offer a GEM interface and software fonts by now, but as any fan will tell you – if it did, it just wouldn't be *Protext* any more!

The simple fact remains that under its rough surface, *Protext* is the most powerful word processor you can buy for the ST. It's fast, sophisticated and much easier to use than ever before, which can't be a bad thing. Arnor have taken the opportunity to squeeze out a few annoying quirks and the result is a more usable and refined package. Now all we need is a grammar checker...



Lost for words? Then Protext's thesaurus will be right up your street/road/lane/avenue...



WordWriter may look pretty, but it's no match for Protext in terms of speed!

RUN FOR COVER!

To find out just how fast *Protext 6* really is, we put it head-to-head with two popular word processors on the ST and Macintosh. The tests were all performed on a correctly spelt 10,000 word document and looked like this:

1 A complete spell-check.
2 A word count.
3 Line-by-line scrolling, from the top to the bottom of the document.

Software	Spell	Count	Scroll
Protext (ST)	58s	29s	76s
Protext (Falcon030)	33s	12s	40s
WordWriter (ST)	73s	15s	207s
MacWrite Pro (16MHz 030)	58s	100s	111s

All tests were carried out in mono, and bear in mind that the Macintosh was running at the same clock speed as the Falcon! It's easy to see that *Protext* romps home in almost all cases, although the timings don't reveal the quality of the screen display – in this department *WordWriter* and *MacWrite* are undoubtedly superior. As always, you pay your money and take your choice...

- ✔ Speed
- ✔ Fully featured
- ✔ Superb printer support

PROS AND CONS

- ✘ Clunky interface
- ✘ Limited WYSIWYG

"Protext 6 is an acquired taste, but it successfully carries on the tradition of previous versions and remains an unbeatable tool for journalists and writers."

NAME: PROTEXT 6
COMPANY: ARNOR LTD
CONTACT: 0733 68909
PRICE: £99
MIN MEMORY: 1MB
SYSTEM: ANY ST

EASE OF USE	★★★★★
DOCUMENTATION	★★★★★
EFFECTIVENESS	★★★★★
VALUE FOR MONEY	★★★★★

OVERALL 86%

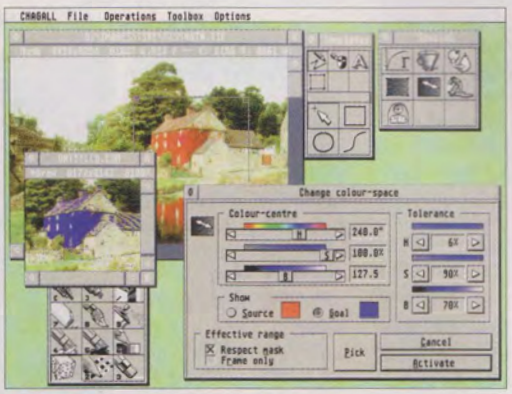
DAY OF THE CHAGALL

Maurice Collins looks at the long-awaited English version of Chagall, a new image editing program from Germany.

Just as the image processing market really starts to take off, London-based CGS, distributor of top notch programs like *DA's Vector* and *Retouche Professional*, has decided to wade in with the long-awaited English version of *Chagall*.

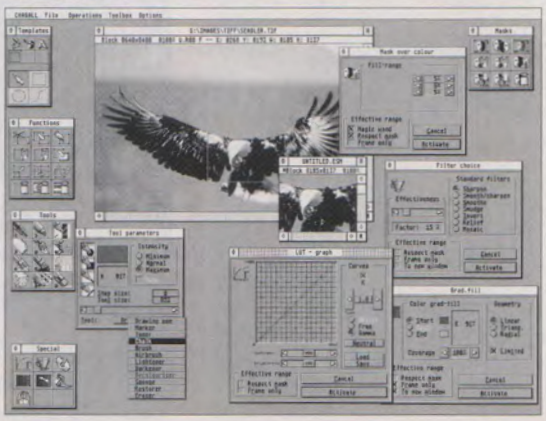
On the face of it, *Chagall* would appear to be competing directly with the likes of *Retouche* and the forthcoming *DA's Picture*, both being distributed by CGS. However, while the others are aimed at the top end of the market, *Chagall* is targeted more closely at the home user, with built-in scanner support and a friendly GEM interface.

Chagall is the jack of all trades of the picture processing world – as well as the facility for scanning directly into the program, in colour or black and white, it has filtering features for creating special effects, editing tools for tidying and retouching images and a number of others for creating imaginative artwork from scratch. The program runs on any Atari (high resolution only on the ST) but is clearly only of real value to Falcon and TT owners or those with a third-party graphics card. It will run on 2Mb machines but for true colour work, far more memory is needed.



The colour space changer lets you alter some colours without affecting others...

There are plenty of options for ensuring TIFF compatibility with other programs.



Products like ScreenBlaster help you get the most out of Chagall's multi-window interface.

FEATURES

The program has a delightful GEM interface that relies on having at least half a dozen windows open at one time. For those with the urge to have more, a shareware system patch called *WINX* (*which is also on this month's cover disk... Ed*) is included that allows up to 40 windows to be open at once.

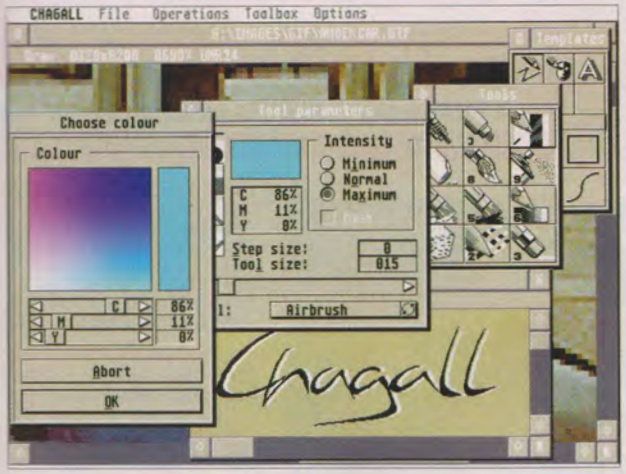
There are six main floating toolboxes: templates, functions, tools, special, masks and modules. Each of these comprises a number of very smart icons in a GEM window. The images are also displayed in GEM windows as are the options screens associated with each tool. With such a wide variety of windowed functions, it can get a little crowded but the windows can be brought to the front when required, making a handy and efficient working environment.

For compulsive key pressers there are extensive keyboard shortcuts available and, being a reasonably well-behaved GEM program, *Chagall* is fully *MultiTOS*-compatible too.

Chagall comes without an English manual at present though it is fully Anglicised to the extent that all menus and the on-line help, called from a desk accessory, are in English – and not broken English either! However, this will probably not suffice for home users unfamiliar with image editing as some features are impossible to find just by experimenting. Witness the zoom facility – there is no mention in the dialogue boxes or menus and only a foray into the help menus reveals that it is accessed by pressing the numeric keys on the top row of the keyboard. In fact the zoom is extremely powerful – up to 32 times normal magnification is possible.

File handling is good without being extensive though it is fair to say that the program includes the best TIFF support in an Atari program for quite some time. TIFF options including three compression settings (none, Run Length Encoded and LZW), five general settings (TIFF 6.0, RGB true colour, 256 colour, greyscale and Reprostudio compatibility) and a choice of Intel or Motorola byte order. Others graphics can be imported in TIFF, GIF, IMG (not extended IMG), PAC, PIC, PI3 and IFF, and exported in all but GIF and IFF formats. Apparently Targa, extended IMG and PCX support are being added.

Chagall is just as capable of creating graphics files from scratch, though, and there is a comprehensive dialogue box for defining the resolution (up to 3,000 dpi), size and depth of new files. Output to a wide range of printers is supported as well as an IMG file (for monochrome halftones) and if that's not enough, you can output via *GDOS* or



Chagall also doubles as a true colour paint program.

SOURCES

Image editing and processing needs one main ingredient to keep going – images. If you don't have a source of images to practise on, owning a program like *Chagall* isn't much use.

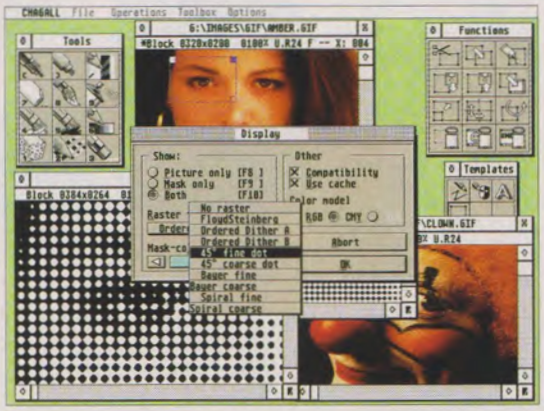
Pictures such as photographs can be scanned using either a colour flatbed scanner like the Epson GT6500 or a black and white hand scanner such as the Ladbroke Pyramid. True greyscale and colour hand scanners are at last becoming available for the ST, something which will open up all sorts of possibilities on a fairly modest budget.

Another method is to use Kodak's PhotoCD – take pictures with your camera, get them developed onto a compact disc and then load them via a CD-ROM drive hooked up to your ST or Falcon.

Finally, don't forget the PD libraries and BBSs – there are scores of disks full of high quality 24-bit colour images for you to experiment with (but watch the copyright carefully).

SpeedoGDOS too. Supported printers include mono and colour Hewlett-Packard DeskJets, LaserJets (300 and 600 dpi versions), Atari and Canon lasers and standard dot matrix printers. More support for colour dot matrix printers might be an idea, though, particularly for the home market.

Quite how the scanning works isn't too clear but apparently something called a GDPS scanner driver needs to be installed as a desk accessory first. When the appropriate menu item is selected, the accessory is called and scanning can take place. CGS claim to have a set of colour scanners lined up at the moment, including full colour and 256 greyscale models.



Images can be displayed using various dithered dot patterns or pseudo-halftones.

EDITING

If getting your image into the program is well covered by *Chagall*, there is no shortage of things to do with it once it's there. You can apply one of half a dozen filters or alter the contrast, brightness or hue of the entire image, mask part of the image and carry out operations only on that part, or select one of a dozen or more point editing tools for accurate retouching or painting.

Masking facilities are excellent (see the accompanying box) with 8-bit masks, so-called magic wand masking, where the program intelligently works out where the mask should go by looking for sharp boundaries, colour masking and loading/saving of masks for future use.

Colours can be changed using the colour space converter, so you could alter all the red flowers in a picture to bright yellow ones, without altering the colour of the leaves and the grass.

Filter effects include sharpening, smoothing and a clever combination of the two, plus smudge, invert, mosaic and relief (similar to embossing in other programs). Monochrome images have a different range, from outline, thinning and thickening to roughen, smoothen and noise reduction (called pixel filter). All can be applied in up to a hundred different intensities and as they can take some minutes, the facility exists to abort halfway through. For creating images there is the usual paintbrush, airbrush and eraser plus chalk, lightener, darkener, and sponge (water). Each can be configured in terms of both size and step and given a choice of colours from the 24-bit internal palette. There is a pick tool, too, and a densitometer for precise colour measurement. All are easy to select and choose but harder to get to grips with. There didn't seem to be a lot of difference between the chalk and airbrush tools at times, which was a little disappointing.

On the negative side, *Chagall* has too few filters to make it attractive as a fun buy. The editing tools could have used a little more creativity on the part of whoever designed them – a multi-coloured brush option would have been nice as would a stamp or cloning tool. Some tools appear to be a little less responsive than they might be and there are long delays when opening windows and redrawing images that get somewhat irritating after a while, even with *NVDI* installed.

VERDICT

Chagall is up against a lot of new products like HiSoft's *TrueImage*, Compo's *Studio Photo* and Titan's *Hyperion* to name but a few. It is more expensive than the others but it has plenty going for it, including excellent masking, scanner input and an exotic and highly appealing interface.

At present it is just ahead of the competition – but the lack of an English manual makes it difficult to recommend it to beginners, especially at the price being asked.

MASKING

One of the highlights of any good professional image processing package is the facility to "mask" areas of an image. Using masking you can protect part of an image from your editing tool actions or special effects filters, preferably by using irregular shapes built up from a number of points like a vector object.

Masks also let you define and cut irregular shapes from images – faces and other features, for example – and paste them onto others to create a photomontage or other special effect such as a "fake" picture.

Colours can often be masked too, with a user defined threshold level so that it includes only a precise colour or all colours within a certain range.

***Chagall* goes one step further and offers 8-bit masking – instead of being a vector type object, the mask is itself a 256 greyscale image! This means you can apply an effect to a masked area but the applied effects lessen towards the edges.**

- ✓ Runs on any Atari
- ✓ Scanner support
- ✓ Excellent zoom/ masking functions
- ✓ Configurable drawing/ editing tools

PROS AND CONS

- ✗ No text handling
- ✗ Sluggish at times
- ✗ Too few filters
- ✗ No English manual

"Fully-featured with a delightful interface – shame there's no manual."

NAME: CHAGALL
COMPANY: CGS
CONTACT: 081-679 7307
PRICE: £149
MIN MEMORY: 1MB
SYSTEM: ANY

EASE OF USE	★★★★★
DOCUMENTATION	★★☆☆☆
EFFECTIVENESS	★★★★★
VALUE FOR MONEY	★★★★½

OVERALL 85%

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- ★ 12 HOUR CLOCK
- ★ GRID SUMS 1
- ★ TILL MINUS
- ★ WORD MEMORY
- ★ SHAPE MATCH
- ★ COUNTRY WIDE
- ★ 24 HOUR CLOCK
- ★ GRID SUMS 2
- ★ PICTURE SPELL
- ★ PICTURE MEMORY
- ★ STREET WISE
- ★ CITY SLICKER
- ★ GRID WORK 1
- ★ LOST LETTERS
- ★ WORD POP-UPS
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£21.95 (inc p&p)

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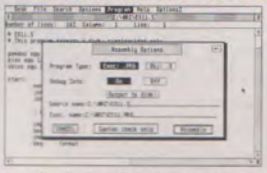
INTRODUCING ST MACHINE CODE

FREE 3.5in Code Disk worth £5



A 400-page book plus disk that provide a complete introduction to machine code programming on the ST/STE.

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The disk contains a text editor, assembler, debugger, resource construction kit and all the examples featured in the book.

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For quality colour and mono printouts

Cut out the screen area you want printed and vary the printout size or print the full screen. Portrait or landscape possible.

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Family Roots is the program for anybody interested in Genealogy

Family Roots uses a unique combination of screen graphics and integrated database with full printer support.

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★ Mouse/Joy Ext Lead	£5.95

Normally £25.80

XMAS SPECIAL – ONLY £21

A NEW WORLD RECORD!

Interested in super-charging your ST for less than £200? Ofir Gal puts the brand new T Boards through their paces...

Ever wondered why *Calamus* takes such a long time to redraw the screen, or why it takes ages for *GEMView* to load and display an image file? The reason is quite simple – lack of processor power. The ST's 8MHz processor may have been state of the art back in 1985, but this is no longer the case and the T28 and T36 boards are designed to push the ST beyond all known limits...

PROCESSOR SPEED

All computer programs work by asking the system to perform various operations ranging from the simple addition of two numbers to a complex task such as displaying a DTP page or a colour image. The Central Processing Unit, or CPU for short, has to deal with most of these tasks, sometimes asking other parts of the system for their assistance. The faster the CPU can do its job, the quicker the system performs.

For instance, a MegaSTE is equipped with the same CPU as the ST and STE but it works twice as fast – 16MHz. Operations are carried out much quicker, resulting in a 70% speed increase on average.

Why only a 70% improvement? While the CPU is 100% faster, the rest of the system is not and so various bottle-necks occur, so preventing the CPU from performing at optimum speed. Nevertheless, a 70% speed increase is quite noticeable and affects every program.

The new T28 and T36 are rated at 28MHz and 36MHz respectively, the latter being almost twice as fast as the MegaSTE!

INSTALLATION

The new boards are larger than the original CPU and so require more space. Some STs have the CPU mounted under the floppy disk drive which prevents installation, but fortunately most STs have the CPU located under the keyboard where the accelerated boards can fit quite neatly.

The hardest part of the installation involves the removal of the original CPU. The easiest way? Snip the legs off with a pair of cutters and then remove these with the aid of a soldering iron and solder sucker. Once removed, a socket is fitted and the new board simply plugs in. Remember – if you are not confident with a soldering iron, it's best to leave the job to an expert.

An optional switch, supplied with the package, can also be installed to enable switching between the accelerated mode and the old 8MHz mode for perfect compatibility.

IN USE

Once the board is installed, the system is immediately transformed. Scrolling through documents, loading images, printing and even booting are much faster. It is truly a joy to use. Since the CPU is a standard Motorola 68000, identical to the original, there are very few compatibility problems and any that do arise can always be solved by switching back to 8MHz. Among the very few programs that will not run at 28 or 36MHz are EMagic *Notator* and *Creator*, *Tempus* and most games. Programs that do run in the accelerated mode are noticeably faster, giving near Falcon performance.

VERDICT

The T28 and T36 are identical except in speed and, of course, price. The T28 presents better value for money while the T36 is the perfect solution for the true speed freaks out there. When compared with the older Turbo 25, the new boards do not perform as well on graphics but more than compensate in terms of pure CPU power which shows when used with *NVDI*.

The current versions only work with the STF, STFM and MegaST, but System Solutions promises an STE version – if there is sufficient interest...

TESTING, TESTING...

So what does this extra processing power mean in real terms? Table 1 shows the results of the practical test we carried out...

TABLE 1

Processor speed	1st Word Plus	1st Word Plus/NVDI	STZIP	GEMView
8MHz	124s	61s	212s	50s
28MHz	88s	34s	75s	28s

The *1st Word Plus* and *1st Word Plus/NVDI* tests involved scrolling from the top to the bottom of a long document. *STZIP* was used to archive 0.5Mb of assorted files while *GEMView* loaded, dithered and displayed a 256-colour image.

The T28 can clearly be seen to be at its best when dealing with pure number crunching tasks although the *1st Word Plus* test shows the bottle-neck caused by the video hardware which is still running at 8MHz.

Selected results with *GEMBench 3.28* show the essential nature of a screen accelerator such as *NVDI*. Table 2 shows that the lack of a Blitter chip creates a bottle-neck as far as graphics and diplay are concerned but with *NVDI* installed, there's quite a different story...

TABLE 2

Test	8MHz ST	T28	T28/NVDI	T36	T36/NVDI	Falcon
GEM Dialogue	100%	127%	518%	131%	576%	213%
VDI Text	100%	129%	2162%	133%	2415%	346%
VDI Graphics	100%	128%	1061%	134%	1291%	280%
GEM Window	100%	129%	403%	133%	444%	251%
Blitting	100%	129%	459%	137%	563%	1009%
VDI Scroll	100%	134%	856%	136%	906%	460%
CPU Average	100%	300%	300%	373%	373%	340%
Graphics Average	100%	129%	962%	134%	1114%	360%

✔ Very fast
✔ Stable in use
✔ Good value for money

PROS AND CONS

✘ Incompatible with some programs and games
✘ No software for mode-switching

"The T28 and T36 offer near Falcon performance at a fraction of the price."

NAME: T28/T36
COMPANY: SYSTEM SOLUTIONS
CONTACT: 081-693 3355
PRICE: £299.95
MIN MEMORY: 0.5MB
SYSTEM: STF, STFM OR MEGA ST

EASE OF USE	★★★★★
DOCUMENTATION	★★★★★
EFFECTIVENESS	★★★★★
VALUE FOR MONEY	★★★★★

OVERALL 88%

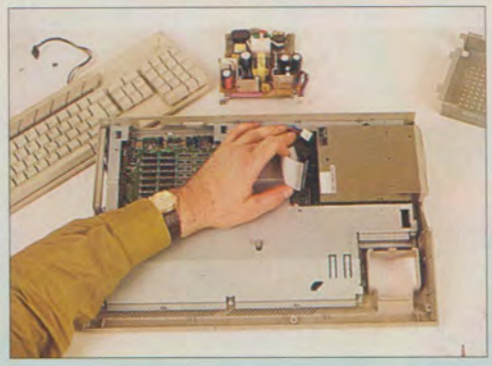
STEP BY STEP

DOWN TO THE BARE BONES

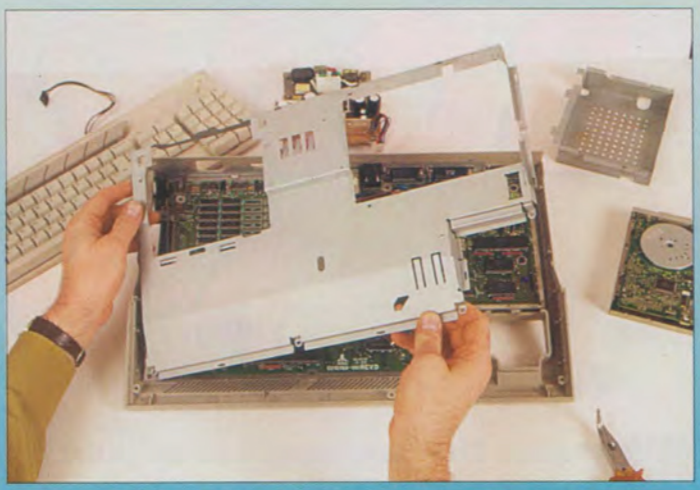
Before installing the T Board, you have to strip the ST down to its motherboard...

1 *To remove the plastic cover, turn the ST over and remove the seven screws in the square holes. Lift the left side and manoeuvre the right side away from the disk drive. Then lift the keyboard and disconnect it from the computer.*

2 *Remove the two small metal screens – floppy drive (right) first and the power supply (left) second. To do this, remove any necessary screws and squeeze the power supply screen to unclip it.*



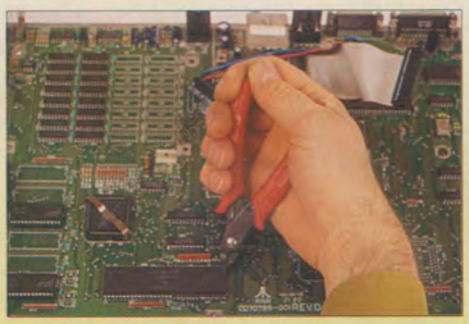
3 *Unclip the power supply connector, remove the screws that hold the power supply down and move it to a safe place. The disk drive also needs to be disconnected; turn over and remove the three long screws in the round holes.*



4 *Once the disk drive and power supply unit are out of the way, the main metal screen can be removed. Straighten the metal twists but be careful – this can be a little fiddly. Also watch your fingers as the metal is quite sharp!*

FITTING THE BOARD

Installation is quite straight-forward – once you have removed the old processor...



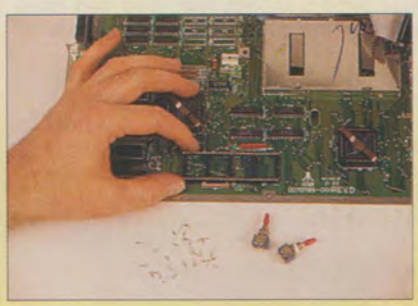
1 *Desoldering the CPU can be very difficult and is likely to damage the board. It is much simpler to snip off its legs. This renders the old processor useless, but you will not need it once the T Board is installed!*

2 *The hardest part involves de-soldering the legs from the motherboard. Make sure the soldering iron is hot and be careful not to overheat the circuit board. A solder sucker is essential. As each leg is carefully removed, you should be able see through the hole.*

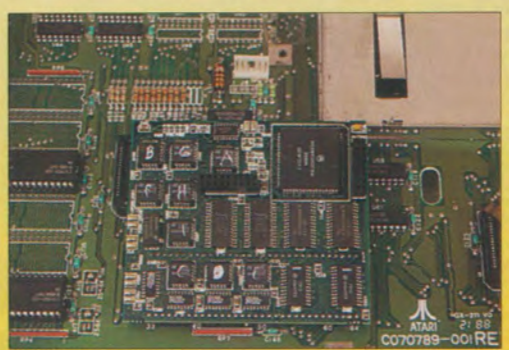
TOOLS

You need a Philips-type screwdriver, a pair of plyers, small cutters, a soldering iron and a solder sucker. Remember to remove any static charge from your body by touching a metal tap or a radiator as excessive static can damage computer chips.

STEP BY STEP



3 *From now on it's plain sailing. Insert the socket provided with the installation kit and solder it into place. As before be careful not to apply too much pressure or heat on the main board and make sure that you don't solder two pins together accidentally.*



4 *Now carefully plug the small lifter into the rear of the socket followed by the T Board. Reassemble the system by reversing the procedure given in the first boxout. That's it – time to be impressed!*

WIN A T28 ACCELERATOR BOARD AND NVDI!

Increase the performance of your ST with our great prize...

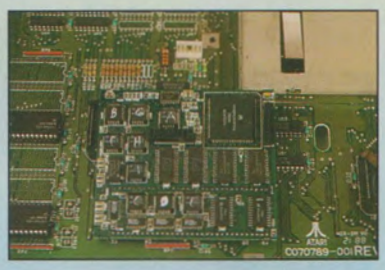
Have you ever wished your ST was faster? Well, it will be if you win our fantastic first prize of a T28 Accelerator Board (inclusive of fitting and courier charges) and a copy of NVDI, courtesy of System Solutions. Your machine will seem like it's flying!

If you're not the outright winner, then there are seven runners-up prizes: three copies of *NVDI* and four annual subscriptions to your favourite ST magazine, *Atari ST Review*.

The T28 is a brand new 28MHz accelerator board for the Mega ST and STFM computers but, as yet, not the STE. Our review on pages 26 and 27 show just how impressive this accelerator is. Add *NVDI*, the super screen accelerator, and you have a formidable computer workstation capable of very impressive performance.

To win one of these great prizes, all you have to do is call 0891 543323 and answer the three simple questions listed below. The first correct entry drawn from the *ST Review* hat after the final date will win the T28 Accelerator board and a copy of *NVDI*. The next three correct will each receive a copy of *NVDI* and the next four, a year's subscription to *ST Review*.

So don't delay, call us now and record your answers. You can enter as many times as you wish and calls should cost no more than 50p at off-peak rate. Make sure you know the answers *before* calling to keep the cost down – write them on a piece of paper and have it in front of you when you dial.



Highly desirable – System Solutions' new 28MHz TBoard.

PRIZES WORTH OVER £500!

ANSWER THESE THREE SIMPLE QUESTIONS...

To be in with a chance of winning the T28 and *NVDI*, all you need to do is answer the following three questions. Leave your answers on our competition hotline and sit back and relax. The first correct entry drawn after the closing date, 31st January 1994, will win the Accelerator Board and a copy of *NVDI*.

Here are the questions...

1. Which processor does the ST have?

2. What is the processor speed of the T28?

3. What is the name of the new Atari 64-bit games console?

Got the answers? Then call us now and leave your details. All calls at cheap rate should cost no more than 50p, provided there is no undue background noise when you ring. Don't forget – if you don't pay the telephone bill, get permission before calling.

Non-UK readers can send their answers on a postcard to: T Board Competition, *Atari ST Review*, Europress Enterprise Ltd, Europa House, Adlington Park, Macclesfield SK10 4NP.

CALL THE COMPETITION HOTLINE ON 0891 543323

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When you buy your new Atari 520 or 1040 ST-E/FM computer from Silica, we will give you an additional £324.75 worth of software FREE OF CHARGE. The Tenstar Games Pack, THE software compendium for Atari ST owners, features ten top titles with a variety of different games for you to enjoy. The three productivity titles for word processing, spelling and computer programming, have been tried and tested by thousands of Atari ST owners and will help you get to grips with the productivity side of computing from day one. These free gifts from Silica are a great introduction to the world of ST computing and will help you to get off to a flying start with your new ST.

*1st Word not supplied with STs where Atari pack already includes 1st Word

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WORTH NEARLY **£325!**

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We are pleased to be able to offer the Atari 520ST-FM for only £149. This model, based on the powerful 8MHz, 68000 processor, has 512K RAM, a 3½" floppy disk drive, easy to use operating system and a range of entertainment and productivity software. Plus, Silica provides a selection of free gifts to help you get started!

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SILICA PRICE:	£149

£149
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The Music Master Pack features one of the most popular computers used by musicians, combined with the renowned MIDI package PRO 24 III, to provide a perfect environment for both novice and professional alike. The acclaimed MIDI Recording and Editing System from Steinberg, PRO 24 III is used by many top musicians including Dire Straits and PWL. Using any MIDI keyboard, PRO 24 offers the ability to write and compose music to a very high standard. You can record up to 24 tracks simultaneously, and then apply real-time editing to remove mistakes.

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State-of-the-art music package.

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THE NEW ATARI GENERATION

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32-bit 68030 16MHz PROCESSOR

The Atari Falcon 030 is a new and exciting breakthrough in the field of personal multimedia. It brings together unparalleled performance with a wide variety of potential applications. It offers 32-bit processing power, making it a powerful workhorse for even the toughest of tasks.

System Architecture:
- CPU: Motorola 68030 operating at 16MHz
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- ROM: 512K

Digital Signal Processor:
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Interfaces, Ports & Expansion Slots:
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- Stereo mic/line input, Stereo audio out - 20mm
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- MS-DOS format compatibility

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- Accepts ext. video sync signal for genlocking - up to 65,536 colours
- Hardware-assisted horizontal line scrolling
- BLITTER graphics processor

Sound:
- Eight 16-bit digital audio DMA record and playback channels (up to 50kHz sampling)
- Stereo 16-bit DMA input & output
- SDMA sound/DMA co-processor

System Software:
- Multiple window user interface with icons and drop down menus
- Icon-based graphics user interface with self-explanatory command functions
- Multi-tasking operating system with inter-process communication (MultiTOS)
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1Mb RAM NO HD	4Mb RAM + HARD DRIVE
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12" MONITOR GREYSCALE - ST & FALCON

BUILT-IN STEREO SPEAKERS

FREE! CABLE - WORTH £14.95 HI-RES EMULATION SOFTWARE

ViewTek

The ViewTek VT12 12" Monitor offers high quality monitor output at an affordable price and is ideal for text and graphics applications on the Atari Falcon, ST-FM and ST-E. It can also be used in low and medium resolution modes on the ST-FM and ST-E to produce greyscale graphics for entertainment software. It also produces stunning greyscale graphics on the Falcon. High resolution emulation software is supplied free to use with specific applications on the ST-FM and ST-E, eg. DTP.

- *12" GREYSCALE MONITOR*
- *REPRESENTS COLOUR IN UNLIMITED SHADES OF GREY*
- *ST-FM & ST-E WORKS IN LOW (320 x 200) + MEDIUM (640 x 200) RESOLUTION MODES - ALSO HIGH (640 x 400) RESOLUTION WITH FREE SOFTWARE INC*
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(Part: MON 3020 - Silica Price £15.99)

FREE CABLE

The VT12 monitor comes with a FREE cable from Silica. Please specify the code for the cable you require when placing your order.

Atari STFM - Mono	- CAB 5912
Atari ST-E - Stereo	- CAB 5920
Falcon* - Stereo	- CAB 5920

*The Falcon also requires an ST-E Monitor adaptor to work with the VT12 Greyscale Monitor - Ref: CAB 5772

MONITOR + CABLE & EMULATOR
£69
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- *14" MONO SCREEN*
- *FOR USE IN HIGH-RESOLUTION MODE ON ST-FM OR ST-E*
- *OPTIONAL FALCON ADAPTOR - SEE BELOW*
- *640 X 400 RESOLUTION*
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- *EASY ACCESS TO CONTROLS FOR BRIGHTNESS, CONTRAST & POWER*
- *INCLUDES TILT & SWIVEL BASE*

FREE INCLUDES FREE CABLE FROM SILICA FOR CONNECTION TO THE ST-FM OR ST-E.

FALCON ADAPTOR
The Falcon requires an ST-E adaptor to work with the Tatung MM14SAE High Resolution Monitor - Ref: CAB5772.

MONITOR + CABLE
£129
INC VAT - MON 3144

The MM14SAE requires additional speakers to enable sound output.

ALL PRICES INCLUDE VAT - DELIVERY IS FREE OF CHARGE IN THE UK MAINLAND

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Before you decide when to buy your new Atari computer, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after buying your Atari, when you may require additional peripherals or software, or help and advice with your new purchase. And, will the company you buy from contact you with details of new products? At Silica, we ensure that you will have nothing to worry about. With our unrivalled experience and expertise, we can meet our customers' requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now for our latest FREE literature and begin to experience the "Silica Service".

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TECH TALK

Why are we all obsessed with speed?

Ever since I got my first computer I have been always on the hunt for software or hardware that will make it run just that little bit faster. Judging by the success of products like *NVDI* and *Warp 9*, or even more expensive hardware accelerators, it seems I am not the only one on the quest for speed.

Trying to demonstrate the difference *NVDI* makes to a non-user the other day, it occurred to me that while *NVDI* is an absolute must on my system, my friend was not impressed and couldn't see why I was so excited. He could not understand why it mattered so much if the screen took a second or half a second to redraw. As far as he was concerned, my Falcon was fast enough either way. When I told him that *NVDI* cost me £50, he voiced doubts concerning my sanity!

As we all know, *NVDI* is a minor investment. Many users are prepared to pay hundreds of pounds just to get that extra speed. A program that takes a while to perform a task is quickly dismissed as being too slow, and even *MultiTOS* is being criticised for its speed, despite all the other benefits it provides. So what is the matter with us computer users? Why are we so obsessed with speed?

I have spent the last few days thinking about this while waiting for my programs to compile or for *Calligrapher* to finish printing. I've arrived at a conclusion that makes some sense to me...

Some things in the real world take time and we are certainly used to this fact. Writing a letter can take a while whether we use a note pad, a pen or a sophisticated word processor. No matter how fast our computer is, most of the time is spent thinking about what we write and then typing it in. No problem so far. The greatest advantage of a hand written document is that we can quickly have a look at any section of it and immediately go back to where we were. With a word processor it is a different story – we need to scroll. Scrolling only takes a few seconds, but we perceive it as a slow process even though we may spend hours writing the document.

It seems that we are happy waiting up to a minute for a printout of a letter, because we know that writing it by hand would take even longer. But we get frustrated when it comes to having a quick glance at a hidden section of it, which requires scrolling.

While computers can be very fast indeed, they sometimes take an disproportional amount of time to do things that we humans can do instantly. Perhaps this is why we get frustrated and spend our hard-earned cash on the latest super fast gadget available...

As most of you know by now, Ofir has been a freelance writer for *Atari ST Review* almost since the magazine's inception. If you think that ST owners get frustrated waiting for their documents to scroll on screen, try being an editor and waiting for your freelancers' copy...

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MINI'S COOL!

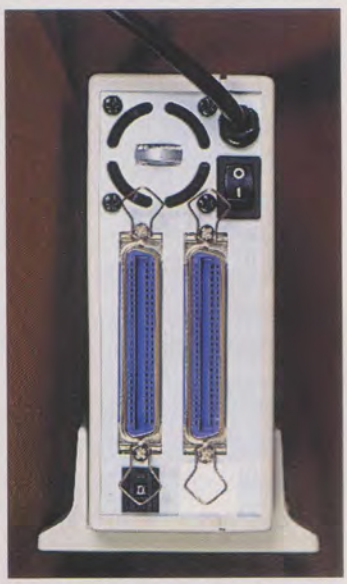
System Solutions' new MiniS hard drive shows that size isn't everything as Ofir Gal discovers...

Many of you are probably considering adding a hard disk to your system.Programs like *MultiTOS* and *SpeedoGDOS* need a hard disk to run properly and barely work on a floppy-based system. Fortunately, hard drive prices have fallen dramatically over the last year or so, bringing them within the reach of many.

The ST cannot be connected directly to a hard disk. It requires a device called a "host adaptor" which, to put it simply, acts as a translator between the ST and the hard disk. Early host adaptors were rather large boards with an array of microchips and a price to match, but recent technology has made it possible to squeeze the circuitry into a device barely larger than a match box.

ENTER THE MINIS...

System Solution's MiniS hard disk system is based on such technology. It consists of a very compact and sturdy grey plastic case which houses the drive mechanism, a small, quiet fan, and the essential power supply. The unit measures just 20cm by 15cm by 6cm and includes two removable legs that allow you to position the unit on its side – quite unique for such a drive. Thanks to its size, it is also very light compared with almost any other unit. System Solutions can supply drives ranging from 105Mb to 1000Mb and over; all have top-of-the-range Quantum and Maxtor mechanisms.



Despite the small size, the MiniS still has two SCSI sockets for daisy-chaining another hard disk.

ATARI ST REVIEW ESSENTIAL BUY

The MiniS system can fit into the smallest of gaps courtesy of the removable feet.

Of the two LEDs at the front of the unit, one shows disk activity while the other lights when the unit is switched on. The two SCSI ports at the back of the unit allow for the daisy-chaining of additional units and both the power switch and fan are located at the back as well as a device ID switch.

Due to its small size, there is no standard removable mains connector; a short lead with an IEC socket is permanently attached.

THE TRANSLATOR

ADD ONS ADD ONS

The host adaptor is similar to the ICD Link in appearance, but with one major difference – it's a moulded unit that integrates the DMA cable and host adaptor into one. Aptly named the Translator, the design is foolproof; simply plug in to the MiniS at one end and the ST at the other. The lead is very short, measuring just over 50cm, which may be a little inconvenient but helps to prevent disk errors and data corruption.

The Translator comes with its own formatting software so eliminating some of Atari's software limitations. Unfortunately the software was not available at the time of writing, but the drive performed flawlessly with the standard Atari driver.

VERDICT

The MiniS system worked well throughout the review period. It's quiet, remains cool in use and simply exudes quality in every aspect. The unit comes formatted, configured and ready to use. There is certainly something attractive about its size, even though it can't be used as a monitor stand like most units! And being so lightweight, it has the advantage of fitting into a standard briefcase. Very practical.

If you have never seen an ST working with a hard drive you certainly should as it is the one device that truly changes the way you use your computer. There is no need for a separate disk for each program as all data is stored on one large drive. It really is one of the few items that every ST owner should aspire to.

SIZES AND PRICES

Due to the shortage of new, high-quality, small capacity drives, the smallest drive on offer is a 105Mb Quantum mechanism. The package includes the MiniS case with an internal power supply, fan and the Translator for the ST version of the system. The Falcon version includes the rather expensive SCSI II connector.

Size	ST	Falcon
105Mb	£299	£259
170Mb	£359	£329
240Mb	£399	£359
340Mb	£549	£499
1000Mb	£1049	£999

- ✔ Slick, ergonomic design
- ✔ Simple host adaptor
- ✔ A choice of high quality mechanisms
- ✔ Well priced

PROS AND CONS

× None

"A high quality hard disk system at a most inviting price."

NAME: MINIS
COMPANY: SYSTEM SOLUTIONS
CONTACT: 081-693 3355
PRICE: STARTS AT £299
SYSTEM: ANY ST/FALCON

EASE OF USE	★★★★★
DOCUMENTATION	N/A
EFFECTIVENESS	★★★★★
VALUE FOR MONEY	★★★★★

OVERALL 92%

AHEAD WITH

ATARI ST REVIEW
ESSENTIAL BUY

Jon Ellis surveys the upgrade to Lattice C...

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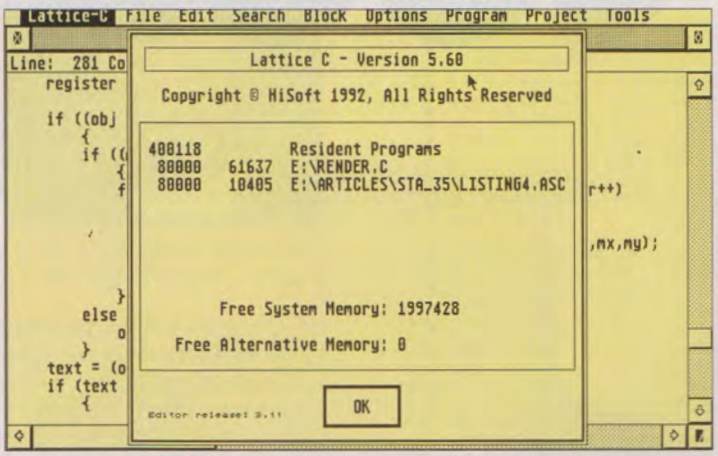


Major upgrade – three new bound manuals and a host of new programming tools make Lattice C 5.60 an essential buy for any serious C programmer.

HiSoft has two major advantages when it comes to marketing *Lattice* C on the ST – the quality of the product, and the absence of competition. The only other C development system with comparable scope and polish is *Pure* C from Germany but no matter how technically good *Pure* C may be, the lack of both English documentation and high-profile user support inevitably limit its attractions for the UK market, leaving *Lattice* C in a strong position.

You might think that this would induce a certain complacency at HiSoft, but not a bit of it. Eighteen months on from the last upgrade, *Lattice* C v5.60 has made its entrance into the ST programming scene. The reason for the new version is readily apparent; *Lattice* C now sports the "Falcon-enhanced" sticker that indicates a Falcon-compatible product which actively exploits the unique features of the new machine.

IMPROVEMENTS

The Falcon versions of TOS, v4.0x, provide many new facilities. These range from enhancements of the GEM interface such as pop-up and nested menus, to the reams of new XBIOS calls that control the Falcon sound and video hardware. The new version of *Lattice* provides bindings for all of these, together with support for the new operating system features available in *MultiTOS*.

The library files have been given a thorough overhaul, with many rationalisations of the header files. In combination with changes to the compiler itself, *Lattice* C is now more rigorously ANSI-compliant. This improvement will help in the porting of software from other platforms.

In addition to the main compiler and library changes, there have also been significant improvements to the suite of utility and support programs that form an essential part of any mature development system. The previous version of the package featured an environment that integrated compiler, assembler, linker and support utilities into the editor. While very much the trend in modern compiler interfaces, there are still many programmers who prefer to use a command line interface. Support for these programmers is provided in the form of a new compiler driver, LCC, which offers many of the facilities of the UNIX cc driver.

Another UNIX-derived utility is also provided to assist in the management of large programming projects. Such undertakings are prone to problems arising from the number of source and header files involved. Remembering which source files have been changed, and so require recompilation, can be difficult. The Make utility automates this process, by checking which source files have been updated, and automatically issuing the commands required to bring the output executable file up to date.

NEW TOOLS

Of the new programming tools, one of the most welcome must surely be the Profiler. During the later stages of software development, there is often scope for enhancing program performance by recoding time-critical routines in assembly language. The Profiler assists in this process by identifying the performance-limiting portions of a program that are leading candidates for recoding or algorithm-tuning.

The debugger, *Mon*, has been thoroughly reworked for compatibility with the Falcon video system (including screen expanders) and standard STs with overscan modifications. It includes many of the new features that first appeared in the *Devpac* 3.10 version debugger, along with extended support for C debugging.

DOCUMENTATION

The original *Lattice* C 5 documentation consisted of three ring-bound manuals. With the appearance of version 5.5, these were supplemented by two more volumes. Together with a separate installation guide, this pile of paper was threatening to get a little unwieldy! The new version is supplied with three completely rewritten manuals that cover the whole package in a more coherent fashion. Unfortunately, the new documentation had not returned from the printers at the time of writing this review, so no more details can be provided.

In addition to the new manuals, HiSoft also include a copy of their new book *Modern Atari System Software* free with *Lattice* C 5.60. This applies to both new system purchases and upgrades for existing owners. The book provides further details on *MiNT* and *MultiTOS* programming, and sheds much-needed light on this new area of the operating system.

VERDICT

The premier Atari development system has just received a timely and feature-packed upgrade. *Lattice* C has been a mature product for some time now, and these improvements ensure that it will continue to look highly-polished for a while to come. The package has always been a near-essential for the serious C programmer, and the extras in the 5.60 package strengthen its claims to indispensability, especially for Falcon programmers.

- ✔ Full support for Falcon and MultiTOS
- ✔ New development tools
- ✔ Complete rewrite of documentation

PROS AND CONS

- ✘ None

"An indispensable package for the serious C programmer."

NAME: LATTICE C V5.60
COMPANY: HISOFT
CONTACT: 0525 718181
PRICE: £169
UPGRADES: £59.95
£54.95 (Silver Support)
£49.95 (Gold Support)
SYSTEM: ANY – HARD DISK RECOMMENDED
MIN MEMORY: 1MB

EASE OF USE	★★★★★
DOCUMENTATION	N/A
EFFECTIVENESS	★★★★★
VALUE FOR MONEY	★★★★★

OVERALL **93%**

HISOFT

By releasing major upgrades to its three main language programs, HiSoft continues to support the programmers among us. ST Review considers the big three...

BUILDING WITH NUMBERS

Graeme Rutt clocks on to the assembly line with Devpac 3.10...

Devpac is an assembly language programming package that turns assembler source code into ready-to-run programs. The lowest level programming language, each command has a direct relationship with a different 68030 operand. *Devpac* also comes with an editor and a debugger, the former to type in source code, the latter to help track down errors, and there's a high degree of integration between all three programs.

WHAT YOU GET

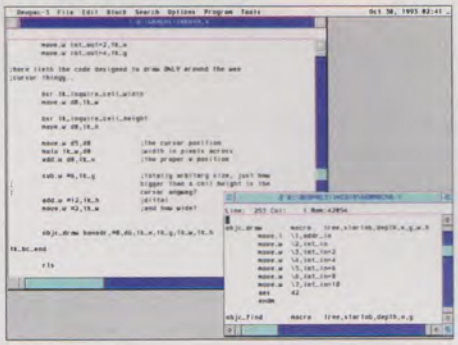
The upgrade comes on a double-sided disk with a single sheet reference card. You get the whole package, even if upgrading, and it still comes with the handy install program. There are now special versions of the assembler and debugger for the Falcon, automatically installed if required.

All the programs now run on the Falcon in all possible screen resolutions. This isn't a huge step for the editor and the assembler as they only had a few problems with Atari's big bird but for the debugger it's a *big* plus. All programs appear to work perfectly in every video mode on a Falcon fitted with ScreenBlaster. There is an obvious speed decrease in the editor in the colour modes but this is to be expected.

The programs also seem to be reasonably *MultiTOS* compatible. The editor seems to work faultlessly until you try to assemble or debug from it; assembly takes over the system while it assembles but the debugger doesn't work at all. To get both working under *MultiTOS* they must be run as TOS programs in a "Miniwin" window. Working in this way, both programs are very effective. The debugger is particularly nice – hit <V> and you switch between *Mon* and the desktop screen, and can even use other processes while you're bug hunting.

SUPPORT FILES

All programs include updated files for the Falcon, *MultiTOS*/*MiNT* and *SpeedoGDOS* calls. Still continuing to cover BIOS, XBIOS and GEMDOS calls with a list of equates, and reserving the honour of macro'dom to the GEM calls, HiSoft has substantially increased its size and coverage. HiSoft claim that every new call is covered – and I haven't found one which isn't yet.



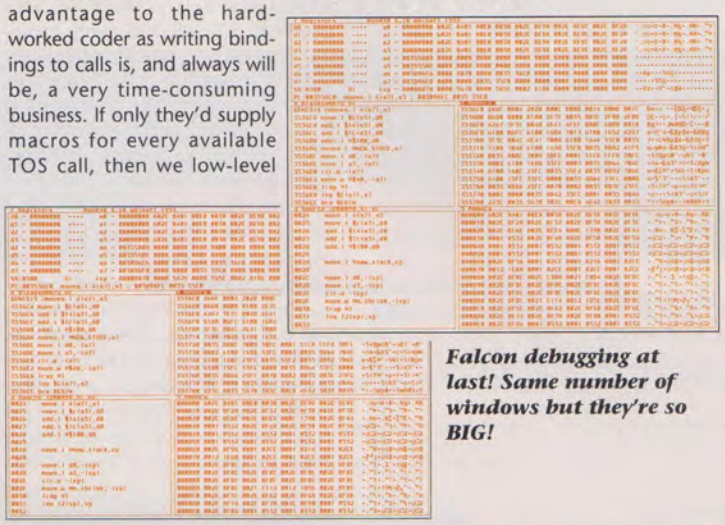
The editor, in colour, with all the small but annoying bugs fixed.

New calls include all the equates for XBIOS routines, which deal with the Falcon DSP, audio and video sub-systems, and GEMDOS calls that are only available under *MiNT*. The new AES calls, up to AES version 4.00, and the VDI calls that *SpeedoGDOS* brings to the programmer's disposal are both available as macros. This is a big advantage to the hard-worked coder as writing bindings to calls is, and always will be, a very time-consuming business. If only they'd supply macros for every available TOS call, then we low-level coders would really be in business!

DOCUMENTATION

Documentation for the upgrade is limited to say the least. A four-sided A5 reference card is all that is provided.

It welcomes the customer, mentions a few changes in the *Editor* and *Mon* and then goes on to advertise HiSoft's new book *Modern Atari System Software*. Maybe this isn't too much of a crime as the upgrade prices are very low, but it would be nice to have a list of the new calls it covers!



Falcon debugging at last! Same number of windows but they're so BIG!

WHY ASSEMBLE?

Assembly language has had bad press – it's hard, long-winded and difficult to debug... not! As with all languages it requires some time to learn and as it comes with a complete source level debugger it's better off in this respect than most other languages. Maybe it *is* a little long-winded but this is offset by the speed and compact size of the programs it produces. Additionally, you won't find another language which is so close to the computer's hardware –anything your machine can do, you can do in assembler.

VERDICT

This upgrade is totally, inescapably vital for anyone planning to program on a Falcon – unless you like debugging without a debugger. This is also an important upgrade if you have *MultiTOS* or *SpeedoGDOS* as all the bindings are there and these two-system packages are then easily open to the programmer's art.

- ✔ Falcon-compatible
- ✔ Comprehensive
- ✔ GEM macros
- ✔ Works under MultiTOS

PROS AND CONS

- ✘ Limited documentation
- ✘ Slow editing in 16 and 256 colour modes

"Devpac 3.10 is a vital upgrade for Falcon programmers."

NAME: DEVPAC 3.10
COMPANY: HISOFT
CONTACT: 0525 718181
PRICE: £79.95
UPGRADES: £7.50
£5.50 (Silver Support)
£3.50 (Gold Support)
MIN MEMORY: 1MB
SYSTEMY: 520 ST upwards

EASE OF USE	✪✪✪✪✪
DOCUMENTATION	N/A
EFFECTIVENESS	✪✪✪✪✪
VALUE FOR MONEY	✪✪✪✪✪

OVERALL 80%

FORWARD WITH BASIC

Ofir Gal puts the latest version of HiSoft BASIC to the test...

HiSoft BASIC is currently the only supported BASIC compiler for the Atari range of computers. The latest version brings it up-to-date with added libraries for *MiNT*, *MultiTOS*, *SpeedoGDOS* and the Falcon. Improvements include further optimisation of the compiler, a Falcon-compatible source code debugger and a much improved GEM toolkit.

OVERVIEW

The full package consists of two manuals and three floppy disks; a 30-page addendum covers the changes and improvements since version 2. An easy-to-use installation program creates all the required folders and copies all the necessary files to a hard drive or floppy disk. The whole system works with a single floppy drive but a hard disk is recommended.

The integrated editor and compiler are the building blocks of the package, but a large number of extra files and programs are included. Among these are HiSoft's resource construction set *WERCS* v1.25 which now supports 3D objects and *MON*, the source code debugger that now works in extended screen resolutions and on the Falcon. The GEM Toolbox is a collection of BASIC routines that take the hard work out of writing GEM programs and, in addition, several files are provided to enable the more advanced user to create customised libraries.

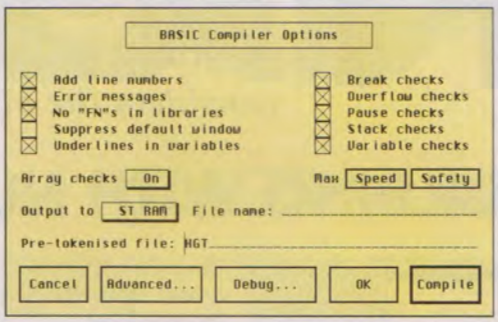
THE EDITOR

The GEM-based editor is simple to use and provides cascading menus, dialogue boxes and pop-up menus. Up to six source code files can be loaded, each in its own window, while the seventh window is reserved for compiler output. All windows are movable and resizable while full cut, copy and paste facilities allow text to be moved. Like all good GEM programs, there are keyboard shortcuts for almost all menu entries.

A useful editor feature is the ability to install various programs such as *WERCS* and *MON* as tools which can be called by selecting their menu entry or via a keyboard shortcut. The tools installation dialogue box supports an optional command line which can be useful for passing file names to the programs.

THE COMPILER

HiSoft BASIC is a compiled language – it produces pure machine code. Programs may be compiled to disk or directly to memory and the compiler supports a wide range of optimisation options that let you remove all error checks and other information from the final program. The new version of the compiler is more *MultiTOS*-friendly as it dynamically allocates memory when needed and returns it to the system when it's no longer required. The compiler also lets you pre-tokenise files so speeding up compilation time.



The compiler produces pure machine code and can be customised via this dialogue box or using the more traditional source code options.

WERCS AND THE HGT

If GEM is a little difficult to master, tools such as these are extremely useful. *WERCS* lets you create and edit resource files via a friendly graphic interface. Here you can design your own dialogue boxes and menus without much trouble.

The *HiSoft GEM Toolbox* is designed to help you use resource files in your programs – object trees, menus, windows and so on. The new version of the HGT supports window dialogues, pop-up menus and keyboard shortcuts in menus and dialogue boxes.

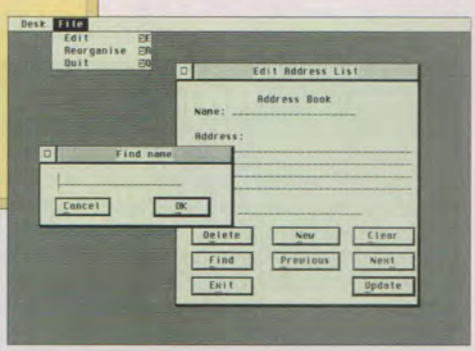
VERDICT

HiSoft BASIC is probably the best of its kind for the ST, being constantly updated and improved by some of the best programmers in the country. While being a comprehensive package, capable of producing sophisticated GEM programs, it is also an ideal tool for the novice with excellent manuals and many example programs on the disks demonstrating the use of the toolbox and other features of the language. It also has the advantage of being as compatible as possible with *MicroSoft BASIC* for the PC.

There are some areas that could be improved. The editor does not support the GEM clipboard and could generally be enhanced by making it more *MultiTOS*-friendly. The integrated compiler cannot run in the background, although a stand-alone TTP version is supplied for this purpose. Operating system documentation is very good, but the latest additions such as *SpeedoGDOS* and Falcon OS calls are not documented and are only available in the optional *Modern Atari System Software* book at additional cost.

That said, *HiSoft BASIC* is one of a kind as far as ST programming languages go and worth every penny.

HiSoft BASIC features a GEM-based editor that supports multiple windows and is also able to run other programs via the Tools menu.



Using the GEM Toolbox, it is quite easy to produce professional looking GEM programs featuring window-based dialogue boxes with keyboard shortcuts and pop-up menus.

ATARI ST REVIEW ESSENTIAL BUY

Ofir Gal was responsible for programming the new GEM toolbox part of HiSoft BASIC 2.10.

- ✔ Integrated Editor and Compiler
- ✔ Extensive GEM toolbox and resource editor
- ✔ Falcon and MultiTOS support

PROS AND CONS

- ✘ Editor could be improved
- ✘ No documentation of new OS calls

"A powerful programming system that caters for the beginner as well as the experienced programmer."

NAME: HISOFT BASIC 2.10
COMPANY: HISOFT
CONTACT: 0525 718181
PRICE: £99.95
UPGRADES: £24.95
£22.95 (Silver Support)
£19.95 (Gold Support)
MIN MEMORY: 0.5MB
SYSTEMY: ANY

EASE OF USE ★★★★★
DOCUMENTATION ★★★★½
EFFECTIVENESS ★★★★½
VALUE FOR MONEY ★★★★★

OVERALL 90%

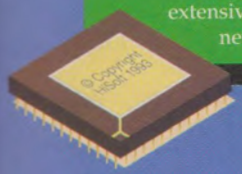
Some Good News for Atari Programmers

There is plenty of good tidings for the Atari programming community this month. Two new books that contain a wealth of up-to-date information and two new versions of our popular languages. Together, these developments breathe new life and hope into Atari 680x0 computers.

Modern Atari System Software

New

This invaluable book contains all the latest details of Atari's newest system software together with the bindings for Lattice C 5.60, HiSoft BASIC 2.10 and Devpac 3.10 - essential for all serious programmers who want to use these packages. Majoring on the Falcon030, *Modern Atari System Software* contains extensive discussion on programming this exciting new machine ... 256 pages, price £19.95.



The Atari Compendium

Finally! This book, from Scott Sanders, provides the most comprehensive collection of information designed for every level of Atari programmer. It covers all Atari 680x0 computers from the 520ST up to the Falcon030 and includes a detailed reference for every function present in TOS 1.0 up to TOS 4, and beyond.This is the book we've all been waiting for ... 840 pages, price £39.95.

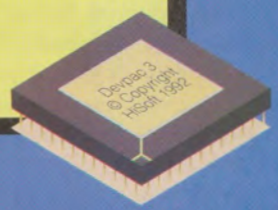
Devpac 3.10

ATARI FALCON 030™ ENHANCED

We are pleased to announce the immediate availability of Devpac 3.10, our latest release of the acclaimed assembler/debugger package. Version 3.10 contains many improvements and enhancements as well as detailed support for the new Falcon030. Upgrades start from only £3 for our Gold Support customers, RRP remains at £79.95.

- Extra include files for SpeedoGDOS™, MultiTOS™ and MiNT™
- Improved debugging and editor facilities including support for all Falcon resolutions
- Editor now works in low-res on all versions of TOS!
- Falcon030 AES and XBIOS support (full details given in *Modern Atari System Software*)
- Falcon030-specific libraries for the DSP/Video/Audio hardware
- Supplied with handy reference card giving editor and debugger keyboard shortcuts

New



BASIC 2.10

ATARI FALCON 030™ ENHANCED

Ideal for both the beginner and the seasoned programmer, HiSoft BASIC 2 combines ease-of-use with exceptional power and flexibility - the only BASIC that is still developed and supported in the UK. 2.10 contains many new features detailed in an extra 32-page manual - upgrades start from £19.95, RRP is £99.95.

- Extra include files for SpeedoGDOS™, MultiTOS™ and MiNT™
- Improved debugging and editor facilities including support for all Falcon resolutions
- Major GEM Toolbox improvements incl dialogs with keyboard shortcuts and pop-ups
- Named compiler options for simplicity
- MultiTOS™ friendly dynamic heap option
- Falcon030 AES and DSP/Audio/Video support (full details given in *Modern Atari System Software*)

New

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OPEN HOUSE

Light at the end of the tunnel?

In the words of the great prophet, Dylan, The Times They Are A-Changin'. I have to announce that this is the last issue of *ST Review* that will bear my name as deputy editor. I'm not deserting the ST scene, simply broadening my horizons – I will still continue my associations with the magazine as games editor.

Since I first bought myself an Atari 800 back in the early eighties, the Atari range of computers has given me a lot of pleasure, pain and heartache, but it's been worth it. I've made a lot of friends (and I'm careful how I use the word 'friend'), one or two enemies and, hopefully, helped to shape a successful magazine with contributions both on and off the page.

Atari Corporation (UK) was born of American parentage in the late 1970s and has had many successes and failures over the last 15 years or so. During this time, we have seen the 800 transform into the XL and then the XE machines, and the ST into the STE, Mega STE, TT and now, Falcon. The 2600 games console, still probably the most successful console in terms of numbers sold, is about to be replaced by what looks to be the most exciting games machine ever launched – the Jaguar.

The promise is that if Jaguar is the success it is hoped to be, then extra money will be made available for Falcon development – we may yet see the consumer case and the 68040 machines.

Despite what we'd like to believe, Atari are there to make money. It doesn't matter how good their products are as long as this is achieved, but second-rate goods don't last long. Was it Abraham Lincoln who said: "You can fool all of the people some of the time and some of the people all of the time, but you can't fool all of the people all of the time"?

As *ST Review* moves into a new era, I look forward to reporting on the latest in games, both on the ST range (including Falcon) and, of course, the fabulous new Jaguar. The first impressions of the new cat are that it will be an outstanding success and should help put Atari back in pole position.

Be seeing you... (Beam me up, Scotty)

After some eighteen months, Tony is leaving *ST Review* this month to pursue a freelance career. We are pleased to retain him as games editor and, along with all our readers, would like to wish him every success in the future.

AMERICAN PIE

Lynx to be pushed on the back of the Jaguar?

By the time you read this I will have gained another ten pounds due to some tasty butterball Thanksgiving Turkey. Well, the good news is my Mega STe is painted rather nicely, the bad news is it came out a bright neon orange! But I have to say the color has really increased my coding psychologically. I was also hoping the paint job would juice my programming skills a tad bit and I am happy to report a new game is almost finished! But orange? Yah, I know...

Jaguar update. After browsing through one of the consumer magazines here in the States, I noticed what appeared to be a rather high glossy four-color ad talking about the Jaguar! This couldn't be an ad from Atari could it? Yes! The folks at Atari have done the unthinkable – they actually advertised! Well, maybe I shouldn't go to that extreme, but it *was* nice to see Atari finally taking out advertising again. Also Atari's promise of promoting the Lynx with the Jaguar seems to be true; there was a new Lynx ad in the same issue. Alas, no mention of the Falcon anywhere...

Rumors of a Falcon-Jaguar development kit are roaring through the nets. Also I have an unconfirmed price of $12,000 to be a Jaguar developer. Hmmm... now where did I put my piggy bank?

The leading (OK, the only) US ST software distributor has been given the go ahead to sell Jaguars to existing Atari dealers. Great – show the game customer the Falcon running some awesome demos and such for $1,200 and then hide them from that $200 Jaguar. Did anyone at Atari hear my comments regarding a Jaguar computer add on – I'm serious about this one folks...

Since things are just about d-e-a-d over here right now, very little new software is coming out for the holidays. A though I suspect *Zool* should take our shores by storm, I would like to focus on some USA ST software developers. Due to space restrictions I cannot mention everyone but after writing several articles now I thought it would be a good time to mention a few Atari developers from our side of the continent with their product(s):

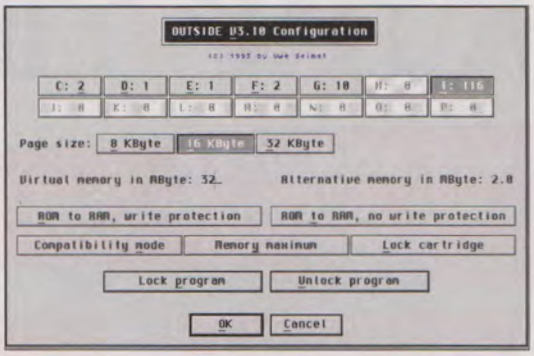
Codehead Software	Warp 9, Codehead Utilities.
D.A. Brumleve	Kidgrid, Kidpainter.
Gadgets by Small	Spectre GCR.
Gribnif	Neodesk, STeno, Cardfile, Geneva.
Oregon Research	Importers of HiSoft software, Diamond Back/Edge.
MajicSoft, Inc.	ButtonsAwari, M.A.G.E, Dev_Shell.
Missionware	Flash II, Fair Dinkum Distribution.
ISD	Calamus.
Newstar	STraight Fax 2.0.
Barefoot	MIDI software (formerly Hybrid Arts).
Steinberg Jones	Steinberg products, Cubase Audio.
Softlogic	Pagestream.

I would like to thank AJ Whitten at Pacific Software Supply for helping me put this list together.

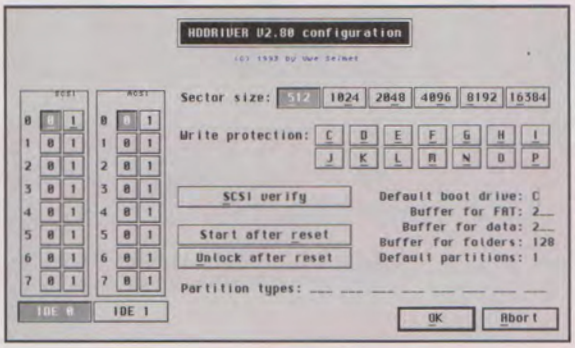
Hopefully next month I'll have a hands-on review of the Jaguar as a local store in my neck of the woods is one of the roll out sites! Until then, I bid you a fond farewell and merry Christmas.

See ya!

***ST Review* were hoping that Dave Munsie would send us a picture of his orange ST, but somehow a fax machine representation wouldn't quite do it justice...**



Outside is fully configurable. Copying TOS into RAM can speed it up by 7% on a Falcon and by up to 30% on a TT.



A full set of hard disk utilities are included. XHDI is certainly faster that Atari's AHDI and works very well.

How would you like more than four megabytes on your Falcon without buying any extra RAM? Ofir Gal looks at Outside, the virtual memory manager...

OUTSIDE INTEREST

Memory and disk space are the bane of our lives. If you use *MultiTOS* or have tried to view a PhotoCD or JPEG image file, you'll know that four megabytes doesn't go very far. To make life harder, RAM prices have soared over the last few months. But there is a solution: virtual RAM, or using part of your hard disk as if it were normal memory – enter *Outside*.

ON THE INSIDE...

Outside has been available in Germany for a while, but only the latest version is Falcon-compatible and consists of the program itself, a configuration program, several utilities and even a hard disk formatter and driver. A simple cache program is also included.

Outside works by using one of the hard disk's partitions as RAM. In this way, up to 512Mb of disk space can be used as virtual memory and when the system runs out of real memory, it starts using this instead. Disk access slows down the system, but by careful swapping of real and virtual memory *Outside* ensures that the active program gets as much real memory as possible.

Such decisions are made automatically, the only indication being some disk access noise when switching between applications, or when the program you're running allocates more RAM.

The configuration program lets you select the hard disk partition, the amount of virtual RAM to allocate and various other parameters such as loading TOS to RAM which speeds things up a little. The chosen partition cannot be written to while *Outside* is active, but is otherwise fully accessible.

If used with *MultiTOS*, *Outside* must be run via the *MiNT* configuration file. This has the effect of disabling memory protection, an inevitable trade-off.

The programmer also recommends using the included XHDI driver which is a little faster than the standard AHDI one.

COMPATIBILITY

As far as the Falcon is concerned, Virtual RAM is installed as "Fast RAM" and there are a fair number of programs that refuse to work with this type of memory. Such programs include *Cubase*, *MUSiCOM* and *WinRec*. *Calligrapher* gets a little confused and forgets to draw the bottom of the page and *ImageCopy 2* displays various problems that can cause an eventual crash. However, most so-called "well behaved" programs work very well, including *Atari Works*, all HiSoft programming tools, *GEMView*, *Connect*, *Everest*, *Diamond Edge*, *STraight FAX*, *MultiDesk Deluxe* and every desk accessory that was tested.

VERDICT

Outside is definitely a useful tool, especially if 14Mb of RAM is beyond your pocket. It is surprisingly fast, very reliable and does not leave any trace of its activity on the partition it uses.

The English manual leaves a lot to be desired (*what's new... Ed*) but 16/32 Systems, the UK distributors, are currently preparing a better one.

INSIDE INFO

***Outside* uses a built-in feature of the 68030 processor inside the Falcon and TT, namely a true memory management unit or MMU for short. This is not available on the ST although *Outside* should work with STs that have been fitted with an 030-based accelerator.**

Virtual RAM works by treating a hard disk partition as real memory though this is much slower than proper RAM chips. Since the additional memory is installed as Alternative (or "Fast") RAM, some programs cannot work as they need to access certain parts of the system that do not allow for such memory. MIDI programs and direct-to-disk recording systems are typical examples. In addition, the computer must have at least 2Mb of standard RAM which is required for the screen and other peripherals.

✓ Fast and reliable
✓ Works with MultiTOS and Geneva
✓ Includes utilities

PROS AND CONS

✗ Some compatibility problems

"A viable alternative to an expensive memory upgrade for the Falcon or TT."

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COMPANY: 16/32 SYSTEMS
CONTACT: 0634 710788
PRICE: £89.95
MIN MEMORY: 2MB
SYSTEM: FALCON/TT

EASE OF USE	★★★★★
DOCUMENTATION	★★★★★
EFFECTIVENESS	★★★★★
VALUE FOR MONEY	★★★★★

OVERALL 82%

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D.M.A. Chip	P.O.A.
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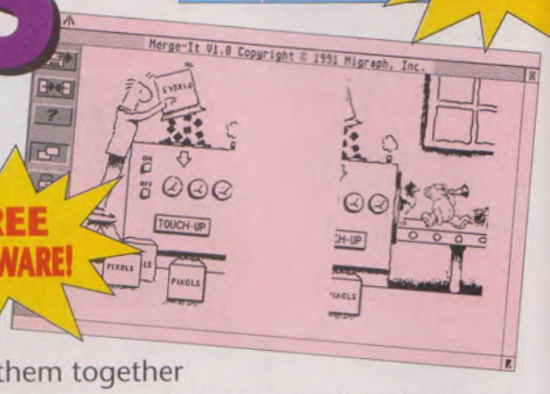

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Our tray is a large guide for your scanner. By scanning your A4 (or larger) pages and using the supplied Migraph ***Merge It!*** software, you can join the two parts together with great accuracy.

The guides are precision moulded to ensure that you get an accurate scan every time – creating a masterpiece couldn't be simpler. Just fit your scanner into the supplied frame and use the guides to move in a guaranteed straight line. When you've done this for both sides of your picture, load ***Merge It!*** and bring in the left and right halves of your scan. Using the cursor keys, move them together until they meet and perfectly match. Then just save the finished picture – that's it!

Scanning has never been simpler than with the ***ST Review*** **Scanning Tray** and, at **£54.99**, it won't break the bank either. This price includes the ***Merge It!*** software, so all you need to add is a hand scanner. With size limitations removed, there's so much more you can do – you get the flexibility of a larger scanner without the cost.

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SCREEN SNAPS

Fancy showing the family photo album on TV? Andrew Wright looks at Photo Show, a new PhotoCD slide show utility for the Falcon.

Now that PhotoCD has arrived, more and more programs are supporting the Kodak .PCD image format, particularly image processing tools like *Studio Photo*. This is fine if you want to retouch or manipulate the images but it doesn't make viewing several dozen snaps particularly easy, especially if you want to put on a bit of a show for the rest of the family or friends.

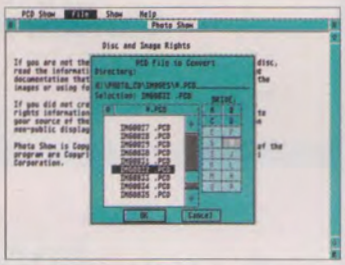
Until now, the only way to view a sequence of PhotoCD images was to go out and buy a Kodak PhotoCD player but Atari specialists System Solutions have taken on distribution of a new utility designed to do the job on a Falcon. In hardware terms, all you need is a CD-ROM drive connected to your Falcon (with 4Mb or more RAM) and a colour display, such as the TV or an RGB/VGA monitor.

Photo Show offers three ways of changing image.

A PhotoCD image at 384 by 240 pixels in 16-bit colour...

GETTING STARTED

Photo Show is supplied on a high density disk with a nine page A5 manual explaining all there is to know about the program as well as a few tips for getting the most from PhotoCD. To get your CD-ROM drive up and running, there's a dedicated CD-ROM driver supplied which is copied into the root directory. This only works under *MultiTOS* or the PD version, *MiNT*, so you'll have to set that up too. The rest of the files are copied across onto the hard drive though the program will work from a floppy provided you keep around 300Kb free for spooling. *Photo Show* works in any 80 column colour mode and is very easy to use – simply point to your CD-ROM drive, select how you want to view the images and away you go. You can view them in numerical order (PhotoCD images are all numbered), specify a range or simply show them at random, all pics being displayed at a resolution optimised for whatever screen you're using.



PCD files can be converted to a raw screen format to speed up the show.

OTHER FACILITIES

If you need more control over the show you can easily create scripts containing user-defined sequences or loops and choose one of three methods of changing one image to another, from the normal pop (straight replacement) to fade and strip where one is replaced by another a strip at a time. You can also add digitised sound in .AVR format – three large samples are included on the disk. Auto or manual display is on offer, although there is no pause button which would be useful in auto mode.

It takes over 30 seconds to load an image on a single speed drive but if the images are converted to .FTC format, using the menu option, they load much more quickly. A separate program is supplied for converting the images into more useful formats such as .EPS, .RAW and .TIF in one of the five standard PhotoCD resolutions. This runs on any Atari, including ST/STEs, and the TIFFs produced by the program can then be used in other applications such as DTP.

Although Photo Show doesn't yet work with *NVDI* or support large screen sizes, it is difficult to fault and fills a big gap for CD-ROM drive owners. With a sound sampler capable of saving .AVR format files and a PhotoCD disc or two, some very effective rolling slide shows beckon...

INSIDE INFO

PhotoCD is Kodak's proprietary system for developing 35mm film directly into a digitised format stored on a standard compact disc. The system provides family viewing of stills on a standard TV set using a PhotoCD player, but for computer users there are more exciting possibilities like lifting off images, editing, retouching and finally incorporating them in documents.

The images on the CD take up between 3.5 and 6Mb and can be read into a computer at any one of five resolutions – 192 by 128, 384 by 256, 768 by 512, 1536 by 1024 and 3072 by 2048 pixels. However, 14Mb Falcons are restricted to the 1536 by 1024 size and 4Mb Falcons are limited to 768 by 512.

- ✓ Simple to use
- ✓ Good export facilities
- ✓ Great price

PROS AND CONS

- × Too few controls
- × More effects needed
- × Incompatible with NVDI

"Photo Show beats buying a dedicated PhotoCD player any day."

NAME: PHOTO SHOW V2.02
COMPANY: SYSTEMS SOLUTIONS
CONTACT: 081-693 3355
PRICE: £34
MIN MEMORY: 4MB
SYSTEM: FALCON

EASE OF USE	✪✪✪✪✪
DOCUMENTATION	✪✪✪✪✪
EFFECTIVENESS	✪✪✪✪✪
VALUE FOR MONEY	✪✪✪✪✪

OVERALL 84%

FIRST ANNUAL ATARI ST REVIEW AWARDS

We gave you the chance of nominating your favourite products and companies – here's how you voted!

We gave you the chance to have your say – and you took us at our word! The selection of winners is literally a who's who of product and company names, with some surprises to say the least. For instance, *Degas Elite* is a runner-up in the Art package category and yet was discontinued some years ago. Perhaps this shows that the best programs never die – they just turn up in annual awards!

Where necessary, products have been grouped. In the DTP category, for instance, *Timeworks* includes *Timeworks* 1 and 2 while *Calamus* includes the 1.09N, S and SL versions.

There certainly appears to be one product about which you cannot make up your minds – Atari's Falcon. Product of the Year *and* Greatest No-Show?

So sit back in a comfortable chair with a cup of coffee and take some time digesting the results of the First Annual Atari ST Review Awards...

SERIOUS SOFTWARE

WORD PROCESSOR
PROTEXT
Runners-Up: 1st Word Plus, Write ON, That's Write!

DESKTOP PUBLISHING
TIMEWORKS
Runners-Up: Calamus, PageStream.

BUSINESS
HOME ACCOUNTS
Runners-Up: K-Spread, Superbase, Prodata.

ART
TRUEPAINT
Runners-Up: Degas Elite, Crack Art, Deluxe Paint.

GRAPHICS
DA'S VECTOR
Runners-Up: Easy Draw, Touch Up, Retouche.

MUSIC
CUBASE
Runners-Up: Concerto, Notator, Breakthru.

UTILITY
FASTCOPY PRO
Runners-Up: Ultimate Virus Killer, Diamond Back 2, NeoDesk.

PD/SHAREWARE
CRACK ART
Runners-Up: FastCopy, GEMView, POV Raytracer.

AUTO FOLDER
SUPERBOOT
Runners-Up: NVDI, Universal Item Selector, SpeedoGDOS.

DESK ACCESSORY
HARLEKIN
Runners-Up: Chameleon, ImageCopy, FastCopy.

HARDWARE

HARD DRIVE
GASTEINER
Runners-Up: Data Pulse +, ProGate, ICD FA-ST.

MONITOR
PHILIPS CM8833-II
Runners-Up: Atari SM124/5, SC1435, SM144.

PRINTER
HP DESKJET 550c
Runners-Up: Canon BJ10, Citizen Swift 240c, HP DeskJet 500.

SCANNER
GOLDEN IMAGE
Runners-Up: Power, Naksha, Alpha Data.

SYNTHESISER
KORG M1
Runners-Up: Roland SC55, Yamaha SY22, Roland SC7.

BEST OVERALL

PRODUCT OF THE YEAR
FALCON030
Runners-Up: MultiTOS, SpeedoGDOS.

COMPANY OF THE YEAR
HISOFT
Runners-Up: Atari, System Solutions, ST Club.

GAME OF THE YEAR
CIVILIZATION
Runners-Up: Lemmings 2, Chaos Engine, F1 Grand Prix.

SOFTWARE HOUSE OF THE YEAR
MICROPROSE
Runners-Up: HiSoft, Renegade, Bitmap Brothers.

BBS OF THE YEAR
CIX
Runners-Up: Compuserve, Bath BBS.

UPGRADES

HARDWARE
TOS 2.06
Runners-Up: XtraRAM Deluxe, ST Review 0.5Mb.

SOFTWARE
NVDI
Runners-Up: NeoDesk 3, SpeedoGDOS.

GAMES

BEST GRAPHICS
F1 GRAND PRIX
Runners-Up: Chaos Engine, Ishar II, Lemmings 2.

BEST SOUND
CHAOS ENGINE
Runners-Up: Epic, Xenon 2, Sleepwalker.

PLAYABILITY
LEMMINGS 2
Runners-Up: Civilization, Sensible Soccer, Chaos Engine.

VALUE FOR MONEY
CIVILIZATION
Runners-Up: Lemmings 2, F1 Grand Prix, F19 Stealth Fighter.

SPECIAL AWARDS

WORST ST PRODUCT
ATARI MOUSE
Runners-Up: McDonald Land, FSMGDOS.

GREATEST NO-SHOW
FALCON030
Runners-Up: Re-cased Falcon, 1Mb Falcon.

BEST CHEAP 'N' CHEERFUL PRODUCT
IMAGECOPY
Runners-Up: ST Review, Forget-Me-Clock.

AND THE WINNER...

... of the Hewlett-Packard LaserJet 4L printer is: Mr James F. Haslam, 6 Sittingbourne Avenue, Bush Hill Park, Enfield, Middlesex EN1 2DA. Thanks to everyone who voted – see you all next year!

WRIGHT ISSUES

My Christmas wish list...

It's about this time of year that the kids start paying more attention than usual to the TV adverts. You can always guarantee that five days before Christmas one or the other of the little pop-pets will suddenly discover something they really, really want. And they'll spend the next twenty four hours telling you so. Just as you're congratulating yourself on having got them just what they wanted, you get the sinking feeling that Christmas day might be better spent down the pub.

Last Christmas I wanted a Falcon. Nearly as much as I wanted Julia Roberts and Michelle Pfeiffer. Of course, there weren't any Falcons to be had last Christmas, so I didn't get one. There weren't too many Julia Roberts' or Michelle Pfeiffers either, to be honest. I got the usual socks, aftershave and a jumper from my mother that would have fitted me back in about 1970 something. I'm still slimming to try and get into it.

This year I want a Jaguar. Actually, I'm lying – the last thing I want is a games console to trip over every time I walk into the sitting room. What really annoys me about them is that you sink into the armchair at the end of a long day reach for the remote control and try to turn on the late news and to find that the games console's plugged in and you're not. Either you get up and start fiddling with leads or go to bed.

No – I want a Jaguar because I want it to happen. If it really happens, £200 seems a small price to pay for the latest technological gismo. Who knows, after a while there might even be a demand for articles about it (*I knew there was an ulterior motive... Ed*). Somehow I can't see connecting up a console, plugging it into the mains and inserting a cartridge ever requiring a three page step-by-step guide or a four part tutorial, but you never know.

What's more, if Jaguar happens – and by happens I mean appears in the shops before Christmas in numbers above those you get from counting fingers and toes – I'll be delighted. It might just provide some revenue for Atari which in turn might just see some more development done on the Falcon. And a healthy price drop. You see, as far as I'm concerned, the Falcon is the next ST. If it takes a games console to get it there, nobody round here will complain.

So I'm swallowing my pride, forgetting my vow never to let my children near a console and wandering down to Dixons to look for a Jaguar. I hope they've got some in... merry Christmas!

Andrew Wright is a freelance writer for various magazines and has been with *ST Review* since its inception. His sometimes foolish, outdated views are typified by his repeated claim that Atari could still get it right if they tried...

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NEXT MONTH

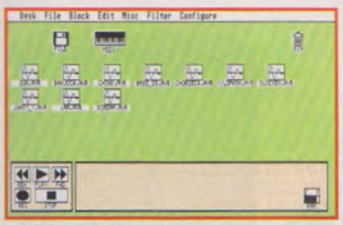
A SOUND WAY TO START THE NEW YEAR...

ST Review scores again with another exclusive – _Replay Stereo_ software. If you've ever wanted to get into sound, then this is the cover disk for you! _Replay Stereo_ works on any ST in medium or high resolution – you're all invited to the party! Hear the sounds from your TV, monitor or via an STE's audio sockets. And to go with this will be one of _ST Review_'s superb, three page tutorials...

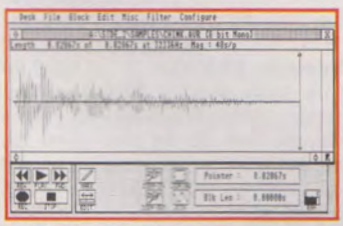
TOP REVIEWS...

... by the best writers! Next month will bring you three full reviews of products at the leading edge of technology:

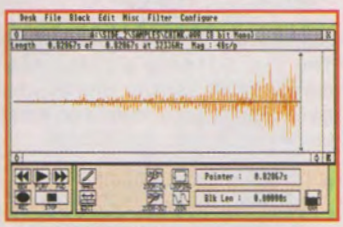
- _Cubase Audio_ delivers up to eight tracks of digital audio on a Falcon computer. Does it live up to its reputation on other machines? We give you the answer.
- _Easy Text Professional Vector_ is the first DTP program to make full use of the _SpeedoGDOS_ font system. Will it change the face of budget DTP as we know it? We explain all.
- _Prism Paint 2_ professes to be the art package against which others must be measured. Hype or fact? Our full review gives the solution.



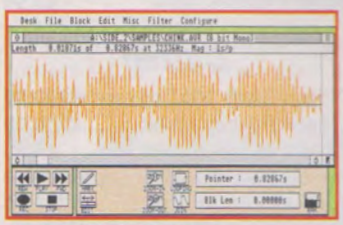
Load as many sounds as your memory allows (up to ten seconds with even a 520ST) – we provide you with dozens!



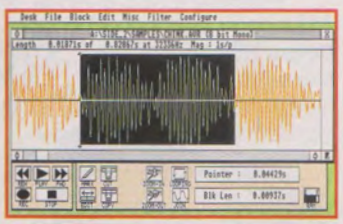
Look at, and listen to, any sound by a simple double click...



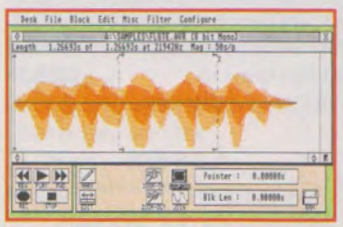
... and play it backwards by using the Reverse feature!



Zoom in and take a closer look...



... grab a section...



... and create the feel of a real instrument!

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The low power consumption of these Autoparking Autobooting mechanisms means that they can operate well within their safe operational temperature ranges without the need for fan cooling. This coupled with the design of the case results in probably the quietest Hard Drive range available for the ST.

Floptical drives are a reliable, high density, replacement media drive for the ST or Falcon. Due to an optical positioning system the Floptical drive is capable of storing 21Mb of data on one 3.5" Floptical disk. The drive can also read/write 720K and 1.44Mb HD disks.

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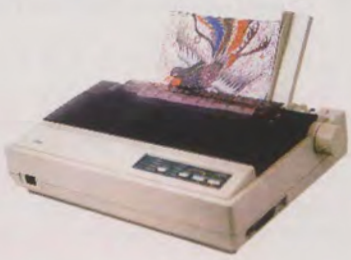

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Falcon VGA adaptor	**£9.99**

The Microvitec 1440 is a multisync monitor compatible with both the Atari ST and the Falcon. Utilising the ST switch box it is possible to display all three ST resolutions on the same monitor. Also compatible with screen blaster for the Falcon.

"Microvitec 1440...Highly recommended"–Atari ST User

Dataview .28 SVGA **£239.99**
This high quality SVGA colour monitor comes complete with Falcon adaptor. The .28 dot pitch gives the highest quality picture (Falcon will only display 256 colours in high resolutions).

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8833 MkII STFM cable	**£9.99**
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Swift 9 Black Ribbon	**£5.00**
Swift 24 Black Ribbon	**£8.00**
Swift 24 Colour Ribbon	**£14.00**

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310 Colour Upgrade	**£28.99**

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Seikosha OP104 **£549.00**

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- 14 resident fonts
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- 12 months on site warranty

Ricoh LP1200 **£699.00**

Add £3 for Centronics cable and £7 for next working day courier delivery

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Samsung C15322X **£249.99**
The Samsung C15322X is a 20" TV with SCART input for high quality display of computer output. It also features remote control, on screen displays, Auto tuning system (requires SCART lead).

Samsung C13352X **£179.99**
The Samsung C13352X is a 14" SCART input TV with remote control and on-screen displays (requires SCART lead).

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Star SJ144 **£549.99**
The Star SJ144 is a Colour/Mono thermal wax transfer printer which gives glossy colour output on normal paper.

- 144 element print head
  - Mono 3 pages per minute
  - Colour 1.4 pages per minute
  - 360 dpi resolution
  - Emulates Epson LQ 860, IBM Proprinter & NEC graphics

Colour Ribbon	**£12.00**
Mono Ribbon	**£10.00**

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Marpet upgrades for the ST are "plug in" and require no soldering. They are compatible with most motherboard layouts and come with full fitting instructions. These boards accept SIMM boards and are upgradeable at a later date. Please check that MMU and Shifter are "socketed' before ordering.

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See SIMM prices below

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2Mb SIMM's STE	**£49.99**
4Mb SIMM's STE	**£99.99**
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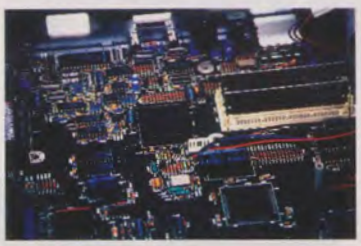

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Tony Kaye pays a visit to 16/32 Systems, distributors of the Lexicor range of graphics packages...

THROUGH

Through The Keyhole trips are often far from easy; this month's recipe for a long journey includes liberal sprinklings of M1, M25 and the Dartford crossing on a Monday morning...

Following the Dover road, the old A2 takes you through Strood, one of the Medway towns, and nestling on the edge of the one-way system is a small shop, headquarters of 16/32 Systems.

Nick Harlow is the man behind the company which started out as a public domain library. Nick was heavily involved in comms and active on Micronet which had a small file area called Sixteen-Thirty-Two, devoted purely to ST owners. At the point when the service was taken over by BT in 1988, the library was growing and using people from outside of the organisation. This became a full-blown, although part-time, non-profit making service as all the people involved had full-time jobs.

The headquarters of 16/32 Systems – an unassuming shop in Strood High Street...

After being made redundant from his job as technical support manager for a major distributor, Nick decided to run the library on a more serious basis. While making a reasonable living, a few bad decisions cost him dearly including taking a stand at last year's Gamesmaster Live Show. "Out of the 60 small traders that attended the show, 30 have gone under." he lamented. "It cost me in the region of £10,000. If I could have found a bridge, I would seriously have considered seeing what was underneath it at that point!"

IT'S A SHOP-OUT!

In January of this year, while contemplating giving up, the shop became available. After much soul searching, Nick decided to give it a try and duly opened on January 22nd. He hasn't looked back. "It's not your usual computer shop. I'm only interested in three systems: the ST, Amiga and PC. I want hobbyists to come in, not kids who want a 1200 'because my mate's just got one.' I stock a large range of educational software and titles that are known to be proven sellers.

"I don't mind the people who only come in for advice and to kill time. I take money from at least four out of ten of them, which is all profit."

With the Amiga and PC markets currently flooded with retail support, Nick loves the ST. Less dealers equates to more business for those who still offer support. "If there wasn't an ST market, I wouldn't still be here. The ST market still has another eight years left at least." says Nick. "Magazines are still being produced for computers that have not been made for the last five years, so why should the ST be any different?"

This feeling of optimism is perhaps a little surprising but is backed up by the number of people who continuously return to the shop along with the passing trade. Mondays are not as quiet as you might expect...

LEXICOR

The connection with Lexicor began back in October 1992 during a conversation with Yat Siu, a German Austrian. Yat was producing animation demos for Lexicor at the time and couldn't believe that he'd found someone with a TT in the UK! He asked Nick if he'd like to handle the demos in the PD library and with just two dedicated TT disks, he jumped at the chance.

Soon after their telephone meet-

Xenomorph 2, an excellent example of a 3D modelling program for the ST, TT and Falcon.

INSIDE INFO

Lexicor are an American company with offices across the States including California and Boston, Massachusetts. They entered the Atari market by continuing to develop Antic Software products after the latter had left the market (Antic was an expensive 8-bit US magazine that had lots of useful information and programs in it).

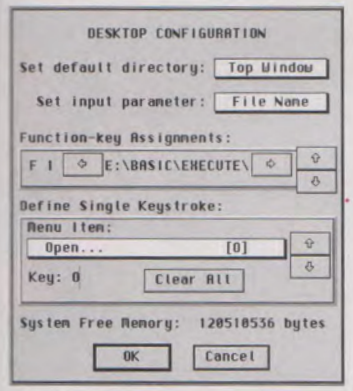
By adding new products to the range to complement existing wares, Lexicor also moved across to the Silicon Graphics professional design systems and continued their success in that field.

The range now includes: Nova graphics expansion card; *Chronos – 3D*, an animation and rendering package; *Prism Paint* and *Prism Paint 2*, artists design tools; *Xenomorph* and *Xenomorph 2*, morphing, rendering and image processing; *Raystart*, a fast raytracing environment; and *Outside*, a Virtual Memory Manager for the TT and Falcon.

Art packages are likely to be judged against Prism Paint 2, the latest Lexicor product.

THE KEYHOLE

ing, Siu became Distribution Controller for Lexicor in Europe, so he offered Nick the distribution of the range in the UK. With another company involved in the discussions, Nick held back his decision until the other party were no longer part of the equation and jumped in with both feet.

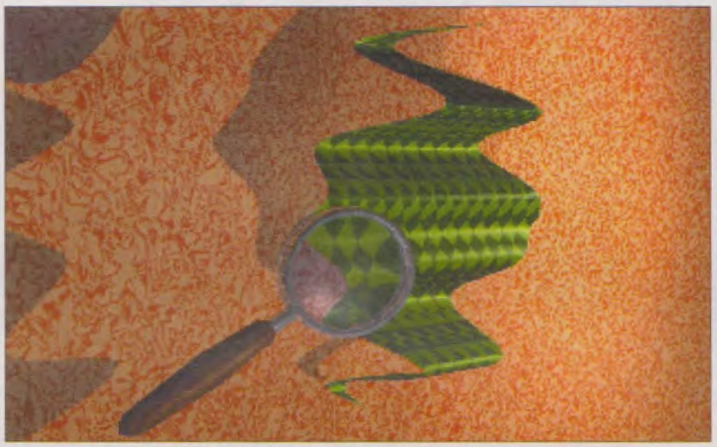


Outside, a virtual memory manager for the Falcon and TT – see full review on page 37.

PRODUCTS

The main new product is the Nova graphics card. The Mega VME 16M card will give 16.7 million colours to a Mega ST or standard machine with an adaptor. Top of the range is the Super NOVA, which offers 16.7 million colours at a resolution of 800 by 600 pixels and 256 colours at 1,280 by 1,024.

By using one megabyte of VRAM and custom VDI routines, any program that takes advantage of Atari's colour system benefits from the cards. The effect is one of speeding up the whole system, being based around the VESA bus system used in the PC. One of the nice features is the ability to switch resolutions "on the fly" (without having to reboot) and the card appears to be fast, smooth and very compatible. The prices are expected to be similar to other cards on the market; around £560 for the VME 16M and £1,000 for the Super NOVA.



Lexicor's range includes Raystart, a raytracing package for the Atari range of computers.

The aim is to release the range of products over a period of months with full support. More coverage has been given to the first of the software packages in the last six months than Lexicor has ever received, mainly due to Nick's determination to succeed.

He maintains that products will not be made available until all of the translation of programs and manuals is complete. This may mean a small delay, but anyone buying the products can be sure of an English manual and no German text within the programs themselves.

Prism Paint 2 is the first of a range of major releases planned from 16/32 Systems and Lexicor. Also known as *Artis Animator 4*, the program is a complete rewrite of the original version and is modular and fully expandable as and when new modules are written. In fact, anyone with a good knowledge of the C programming language could even write their own. "This is going to be *the* standard in art packages," says Nick proudly.

Nick Harlow using a TT and Nova graphics card to display a high standard of picture limited only by the quality of the monitor.

Other packages include *Xenomorph*, which offers full 3D object rendering, and *Xenomorph 2*, a *MultiTOS*-compatible version that allows you to render in the background. Both run on all STs and the Falcon. *Outside* for the Falcon and TT is a Virtual Memory Manager, giving up to 512 megabytes of extra memory using spare hard disk space. *Raystart* is a ray-tracing package that is fully compatible with *CAD 3D2* files and will work on any ST. A full range of computer-aided design features can also be found in *Chronos 3D*, which will handle Lexicor's .3D4 and *Cyber Studio*'s .3D2 files.

"All this and more adds up to a professional range of products that should appeal to just about anyone interested in graphics handling and art, from the casual user to the professional artist." emphasises Nick.

The system running in the shop is a TT complete with a Nova VME 16M card, 20Mb virtual memory and Atari PTC1426 monitor. *Prism Paint 2* running on this system is very impressive, especially with the speed and smoothness of the card. However, it remains to be seen how well a standard ST will handle the various programs; watch out for the coming issues of *ST Review*.

Part of the PD collection is at the back of the shop.

TO PD OR NOT TO PD?

Nick started 16/32 as a public domain library from his days on Micronet and Prestel.

But the real growth came in 1991 when Martin Dryden, who ran the South West PD Library, decided to give up his own library following an unfounded investigation for copyright infringement. He sold his entire collection to Nick, who now can offer over 3,000 ST disks.

16/32 Systems are based at 173 High Street, Strood, Kent ME2 4TW. Tel: 0634 710788.

XMAS CHEER ON

... with ST Review's guide to twenty essential goodies each costing less than a tenner!

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Available branded or unbranded, in boxes of ten or in bulk. Prices start at around £4.95 for ten.

2 ST SECURE

A small hardware add-on to protect your valuable data from prying eyes. This £9.99 extra will shut your computer down if the password is not entered within 45 seconds of starting.

3 ST DUST COVER

Your computer's single worst enemy (apart from a ten pound hammer) is dust. Reduce this by covering up your ST when not in use – and improve the looks too for just £4

4 512KB MEMORY UPGRADE

A lot of new ST games require one megabyte of memory to run. An upgrade using SIMMs is very easy to install and will set you back a miserly £9.99.

5 ANTI-GLARE GLASSES

If you spend a lot of time in front of your computer screen, then these anti-glare glasses really do help to reduce the strain of hours of staring at a monitor. Only £9.99 for the glasses and £8.99 for clip-ons.

6 MOUSE MAT

A mouse mat will help to protect your mouse, keeping it cleaner and so helping it to move more smoothly. Various prices from about £3.95.

7 PRINTER STAND

This sturdy stand lets you store the paper under the printer so saving space. It comes complete with anti-slip tape and fits any size of printer – all at a bank-saving £3.99.

8 A/B BOOTSWITCH

This switch will fool your ST into thinking that your B drive is inside your ST and let you boot from your external drive. Peace of mind for a mere £4.99.

9 HD TURBO KIT

If you have a hard disk drive, you need some basic utilities to get the best out of it – check out the *Turbo Kit* at a mere £4.99.

10 ATARI CALCULATOR

A desktop calculator at £4.99 for all your calculations. The colour even matches your ST!

11 MOUSE/JOYSTICK EXTENSION LEADS

Plugging and unplugging your mouse and joystick can cause the sockets under your ST to weaken and cause problems – and they're awkward to reach. A pair of extension leads will alleviate both problems in one fell swoop for just £5.95.

12 PRINT 'N' WEAR PAPER

For £7.99 you can create a work of art on your computer, print it to the special paper and wear it on a T-shirt! Print your picture in reverse and iron it on to a plain white shirt for unique, one-off designs.

13 BUDGET GAMES

Six games from Daze Marketing are all available for the amazingly low price of just £2.99 each.

14 REPLACEMENT MOUSE

The Atari mouse is slow and gets clogged up with dirt very quickly. Why not replace it with a better, more responsive rodent? Prices start from £9.99.

15 JOYSTICK

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16 DISK STORAGE BOX

For £7.99, you can have a disk box with a capacity of 100, complete with dividers, labels, a lockable, hinged lid and keys.

17 3.5" HEAD CLEANING DISK

Add a few drops of liquid to the cleaner disk and run the drive for 30 seconds to remove any dirt and grime that has built up since you bought your ST. All for the princely sum of £3

18 MIDI STUDIO MASTER

How about a commercial MIDI sequencer for £9.99 – little more than the price of a public domain version!

19 MOUSE/JOYSTICK SWITCH

This clever little device switches between your joystick and mouse automatically by sensing a press on the left mouse button or joystick fire button. Prolongs the life of your mouse port for only £9.95.

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The *Ultimate Virus Killer* is a must for any computer owner. And the best protection available for your ST costs just £9.99.

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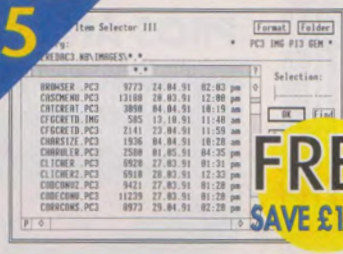

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SWEET AND CHEERFUL

If you're in doubt about taking your MIDI medicine, Sweet Sixteen could be just your spoonful of sugar...

ATARI ST REVIEW
ESSENTIAL BUY

It looked tasty the moment I saw it. A simple, sixteen-track sequencer with all the essentials, including a smooth-scrolling piano roll editor...

One of the first things you notice about a package is the manual. Spelling and grammar mistakes aside (well, it is Swedish) this one's a joy. It only uses four sheets of A4 stapled into an A5 booklet – and that's considerably less than the operating instructions for the average VCR! Its brevity is partly a result of its unpatronising, no-nonsense attitude. It just tells you what you can do in as few words as possible. For instance, "Dragging a recorded track to the left will delete it. Dragging a recorded track up or down will copy or merge it. Double click on a recorded track and you can name it." Later, we read that: "INSERT NOTE is obvious". Indeed it is, so why say more?

The program's main screen bears more than a passing resemblance to EMagic's *Creator* and *Notator SL* programs. In fact every single feature of *Sweet Sixteen* could be described as a simplified version of an equivalent feature in *Creator*. There's a main screen for recording and arranging and up to sixteen, sixteen-track patterns can be recorded and then arranged in any order although only one pattern can play at a time. There are thirty-two positions in the arrange list, and a facility for transposing entire patterns.

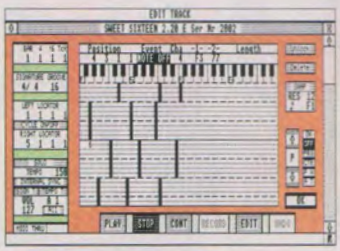
Each track has its own velocity, transposition, compression and delay parameters, and may be quantised to any commonly-used value, with or without "swing". A "human quantise" feature enables you to avoid mechanical-sounding music by allowing a little timing randomness to creep in – you decide how much.

There are many features that you wouldn't expect to find in a budget sequencer. There's a pre-start option so that your music can start before beat one. You can enable or disable "running status" – when switched on this can solve timing problems by reducing the density of MIDI information, but you can turn it off if you've got an old synth that can't handle it.

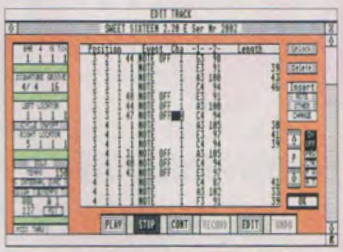
And how about these facilities – MIDI filtering on input and output, external sync and MIDI clock, MIDI click, System Exclusive recording, time signature changes, automatic checking of missing Note Offs, duplicated events and note overlaps; the list is almost endless. *Sweet Sixteen* even offers Controller remapping which means you can, for example, use a pitch wheel to control volume! The piano-roll editor scrolls in real time, but can be stopped at any point for editing without stopping the music. In fact, most of *Sweet Sixteen*'s functions can be performed in real time.

The program doesn't automatically re-channelise during record so you need to select the appropriate MIDI transmit channel on your master keyboard in order to hear the correct sound, even though you've already selected the MIDI channel for the track you're about to record. A strange quirk, but hardly the end of the world – unless your keyboard can only transmit on one channel...

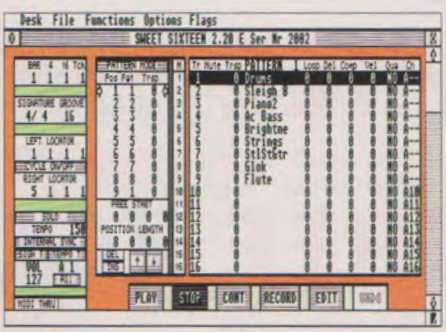
Sweet Sixteen has a very economic way of storing MIDI events in RAM so it could be of special interest to 520ST owners for whom it will allow 45,000 events! On a 1040ST, the capacity rises to 125,000 events – not bad considering that the timing resolution is 192 ppqn. The program also runs on the Falcon without hiccup.



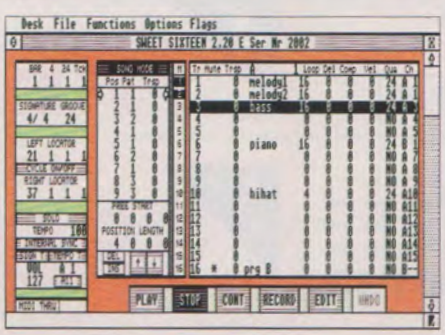
There's an excellent piano roll-style editor, similar to Creator's Matrix grid...



... or an event list for those of you who like a walk on the number side!



In Pattern mode, you get 16 tracks for each section of your song...



... while in Song mode, patterns are chained together – notice that the two melody tracks here are muted for the intro section.

VERDICT

At under £50, *Sweet Sixteen* is ideal for anyone who fancies an easy introduction to sequencing or has found their PD sequencer too limiting. With so many schools using *Creator* or *Notator*, this program would also make a perfect home sequencer for pupils wise enough to have their own STs. Isn't it great that simplicity always seems to come so cheap?

PROS AND CONS

- ✓ Easy to use
- ✓ Short manual
- ✓ Excellent facilities
- ✓ Cheap

- × No re-channelising when recording

"Sweet Sixteen's a solid, simple, satisfying, Swedish sequencer."

NAME: SWEET SIXTEEN
COMPANY: HANDS ON
CONTACT: 0705 221162
PRICE: £49.95
MIN MEMORY: 0.5MB

EASE OF USE	★★★★★
DOCUMENTATION	★★★★½
EFFECTIVENESS	★★★★½
VALUE FOR MONEY	★★★★★

OVERALL 91%

SEIKOSHA PRINTERS

Silica are pleased to recommend the high quality range of Seikosha printers, built by a company that is used to manufacturing quality precision products. Seikosha are part of the massive Seiko/Epson group with a turnover of £6 billion and 18,000 staff! Every dot matrix printer from Silica comes with a free printer starter kit which includes all you need to get up and running with your new Seikosha printer (see below).

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£109 + VAT = £128.08 PRI 8195

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- *80 Column*
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- *Parallel and Serial Interfaces*
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180 CPS 80 COLUMN

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- *Windows Driver Standard*
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- *Optional Automatic Sheet Feeder - 70 Sheets (£35 +VAT)*
- *Ultra-Quiet - Less Than 45 dB/A*

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300 CPS 80 COLUMN

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- *Ultra Quiet - 46dB(A) Maximum*

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PLAYBACK

After the turkey (or nut roast if you're a veggie), how about some Chrissie song files instead of the TV repeats?

HEAVENLY MUSIC

£19.95 • 0255 434217

With "A Heavenly Christmas" emblazoned on the disk label, Heavenly Music offers a special disk with a mixture of traditional carols and pop songs. The latter includes *Feed The World*, the Band Aid hit, and *Driving Home For Xmas* from Chris Rea, arranged in Heavenly's own inimitable style.

The Christmas carols invariably start in the expected manner – until the rhythm section kicks in! *Joy To The World* has a wicked percussion arrangement while *Come All Ye Faithful* is driven along by a very lifelike tambourine line along with tubular bells, lead guitar, brass lines and some superb harp arpeggios. Pride of place goes to the jazz/ballad version of *Merry Christmas*.

PROTRACKS

£30 (3 medleys) • 081-773 8319

Nestled among the ProTracks catalogue is the rather unassuming title of "Christmas Disco Medley" but hidden behind such an innocent facade is an absolute killer of a song file.

What you get is a three minutes forty-five seconds of superb, big band arrangement with full swelling brass section including individual alto and baritone saxes and trombones.

The medley includes *Winter Wonderland*, *I Saw Mummy Kissin' Santa Claus* and *I'm Dreaming Of A White Christmas* with some excellent transition music from one song to the next. If you're into this style of music, then order this song file... now!

HANDS ON

£9.95 • 0705 221162

The Xmas Collection pack contains ten traditional carols arranged the way that Hands On do best – a little jazzy, a little bit big band. All the standard favourites are there like *Frosty The Snowman* and *Jingle Bells* along with classics such as *I Saw Mummy Kissin' Santa Claus* and *Winter Wonderland* although my personal favourite would have to be an ace version of *Santa Claus Is Comin' To Town*.

All songs have a nice, laid back feel with a good groove and very effective drum fills. While MIDI Files programmed for General MIDI sound modules normally use sax for the lead line, these use a refreshing range – flute, harmonica, pan flute and so on.

Additionally, Hands On offer accurate renditions of four specialist Xmas hits for £4.95 each; *Feed The World*, *Merry Xmas Everybody*, *White Christmas* and *Last Christmas*.

SOUND IMAGE PRODUCTIONS

£10 • 0501 825109

The special Christmas package of ten songs also includes an offer to select one of the standard catalogue songs free of charge. Talk about season's greetings...

The five carols are arranged very traditionally with minimal percussion or bass but plenty of strings and sleigh bells. But the four medleys are very different, two being rock-styled, one in a disco vein and the fourth, a foxtrot special. The rock versions have Status Quo-style rhythm guitar, with big percussion and drumsticks click intro – a nice touch. Perhaps *Good King Wenceslas* á la Quo is a trifle sacrilegious, but it certainly sounds good!

To round it all off, there's *Auld Lang Syne* with a great US Civil War-style snare drum, finishing off with fading applause if you playback via a General MIDI sound module...

WORDS & MUSIC

£10.95 • 091-529 4788

The ethos behind Words & Music is very much a DIY one – bundles of song files without the bells and whistles associated with offerings from other companies. As such, they tend to be excellent value for money and the Christmas MIDI Song Collection is no exception – 102 song files for a little over a tenner!

Files are of two types. "3Part" songs each contain three musical parts that benefit from being assigned to three MIDI channels; "Multi" are simply multiple instrument songs.

To say the range of carols and classical pieces is exhaustive is an understatement; everything from *The Twelve Days Of Christmas* through to the *Brandeburg Concerto*! So if you fancy a mixture of Sing-along-a-Xmas and classic classical, you know who to call...

SEVENTH HEAVEN

Perhaps "One Family & their STs" would be a better title this month as Vic Lennard interviews Joe Ortiz of Heavenly Music.

In just two years, Joe and Pauly Ortiz of Heavenly Music have built up a reputation for creating the best song arrangements on MIDI File. A quick listen to one leaves you in no doubt as to the quality – excellent feel from the hands of true musicians.

So how did they get their first ST? "I was teaching guitar and keyboards in 1990." explains Joe. "One of my pupils offered to give me an Atari ST in exchange for lessons so that was it – one 520 STFM."

Were Joe and Pauly experienced computer users? "No way!" laughs Joe. "We spent two weeks trying to figure out how to launch a program on it! When it came to computers, Pauly and I did not want to know. We're musicians and composers. But while we could still do an album without MIDI or computers, it would be a very slow process."

IN SEQUENCE

"I forget what piece of equipment I swapped for a promotional version of *Steinberg 12* but that was the first sequencer we had." remembers Joe. "I played around with that for two or three months but really couldn't get on with it – locators and song positions just didn't appeal to me. Then I borrowed a friend's *Pro 24* and played with that for another couple of months but that didn't happen either. About a year after getting the ST, we saw *Cubase* during a session and got to try it out. That was it – we were convinced.

"Originally we intended to work on a new album but £6 in our bank account and nothing in the fridge made us rethink. We borrowed enough money for a baby ad in a music magazine and the rest is history."

Heavenly Music's first projects were *RAMJAM*, a collection of song files to jam along to, and *Dr. Beat*, a selection of drum and percussion programming. Although Joe had seen adverts for MIDI song files, he didn't appreciate the market potential. "We were doing sequenced cover versions for our live work and were always trying to get close to the originals. We fell into MIDI song files because we could do them."

Joe and Pauly's nine year old son, Paul, is now also involved in the family business. "He practices on covers and tries to emulate records, especially Michael Jackson." admits Joe. "Paul soaks up the lot – bass line, arrangement, keyboards, everything. He's done some of the programming on the later *Dr. Beat* volumes and has been asked by BCK, our distributors, to program for the Technics range of keyboards. We'll help him with the MIDI controller messages but he can handle the music side."

OTHER PROGRAMS

The STs are used for every aspect of business. *Publishing Partner* makes short work of letterheads while *Superbase Personal* keeps client lists in order. Accounting is handled by *Personal Finance Manager*, artwork by *Hyperpaint 2* and any documents by *Word Writer 2*, although the latter is currently being replaced by *That's Write 2*. "It's a beautiful program – the *Cubase* of word processors!" jokes Joe.

Various utilities have become essential. *Fastcopy Pro* for disk duplication, *Diamond Edge* and *Diamond Back* keep hard disks in good order and *NVDI* prevents the frustration of waiting for the ST's screen to redraw.

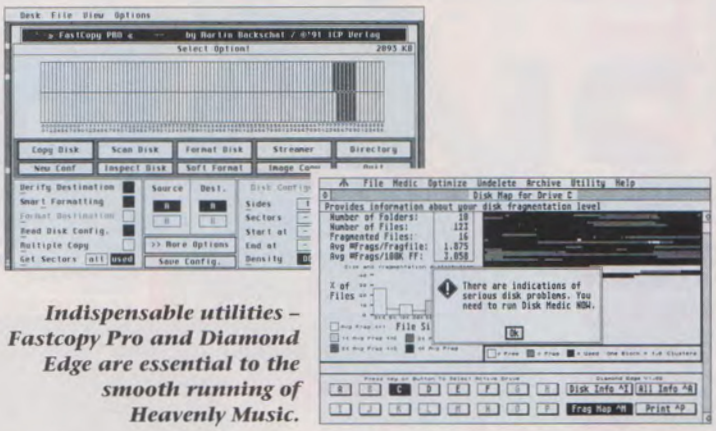
THE FUTURE

"More TV, more albums, touring and gigging hopefully. We're about to go back into the studio for another album." says Joe, with more than just a little hope in his voice...

WHICH ST?

Joe uses a 4Mb MegaSTE with a 240Mb internal Quantum hard disk and an SM144 monitor. A 44Mb Syquest is kept specifically for backing up. Pauly has a 1040STFM, upgraded to 4Mb, with TOS 2.06, a 106Mb Third Coast hard drive and an SM124 monitor while Paul uses a 520STFM, upgraded to 2.5Mb with another SM124 monitor. An additional 520STFM upgraded to 2.5Mb with a Megafile 30 is used for word processing and accounts. Each of them works in a separate room with the same basic MIDI sound module set-up for ease of song transfer.

Current printers are a Canon BubbleJet BJ10sx and a trusty old wide-carriage Epson FX1050.



Indispensable utilities – Fastcopy Pro and Diamond Edge are essential to the smooth running of Heavenly Music.

Joe, Pauly and Paul (seated) – a family with talent...

PROFESSIONAL WORK

In 1979, Pauly was signed to Eagle Records under the name of Joanna Forte. Joe was called in to produce her album, *Lady's Fire*, from which the single *One Of The Chosen Few* received plenty of airplay in the UK.

In 1988, under the name of Heaven On Earth, Joe and Pauly released *Dedication* on Atlantic Records followed, in 1990, by *Arm In Arm*. Both albums were big in Germany and Japan but suffered from poor promotion in the UK.

TV work has included music for *Heirlooms*, an antiques program, *Animals In Action* and *Jumble*, a games show on ITV.

For more information on Heavenly Music, call 0255 434217.

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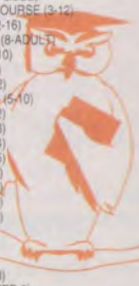

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FIRST IMPRESSIONS

Here we go, here we go, here we go – Dave "Dazza" Jones previews the latest soccer game from Ocean...

The overhead view still shows the wireframe, although you see more of the pitch.

A header from Anderson is saved by the keeper. Note the wire frame showing the position on the field.

EUROPEAN CHAMPIONS

The success of *Striker* and the *Kick Off* series has spawned many soccer games, both management simulations and arcade-style kick-'em-ups. While some have been good, many have been for die-hard fans only.

European Champions promises to appeal to the gamer as well as the footy fan with its arcade style and strategy elements. The game will only run on a 1Mb STE as it has so many features including realistic sound and a choice of grandstand or overhead views during play without any loss of speed.

TEAMS

All of the Premier League clubs from the 1993/4 season are featured along with the top club sides from Italy, Germany, France and Spain. Each has a choice of 10 different skill levels, so everyone has a chance to win while improving their playing ability. You can even change the individual skill of the players for added realism.

A highly detailed pitch with large sprites make the game friendly and easy to play, although challenging and detailed enough to keep you in front of your computer with the game loaded – perhaps trying to emulate Norwich against Bayern Munich!

TACTICS

There are many built-in tactics options, but if you don't want to play them you can design your own. According to Audiogenic, the programmers of the game, "the tactics in *European Champions* are more comprehensive and powerful than in any previous soccer simulation – yet they're really easy to set up!"

It's a Goal! The first goal in this match, viewed from the grandstand.

Wind direction and speed are variable and you can change the conditions of the pitch, both of which affect the way the game is played. Three different modes of passing are offered to help you improve this side of your game and make it easy to build up moves fast and smoothly. The idea is that an average player can look good and a good player is made to appear excellent, but remember – your opposition is going to match your skills so it won't be easy. There is more than just arcade action, though. You'll need skill and cunning to select the right team at the right time and generally have a good footballing brain if you're going to win the league.

Just as you can change the view from Grandstand (side view) to Overhead (birds-eye view) at the touch of a key without interrupting play, you can also select an instant replay whenever you want. You get full video-style controls over the action (Play, Rewind, Fast Forward, Freeze Frame and Slow Motion) and you can even change the camera angle to see what else is happening on the pitch at the time.

As you'd expect from this type of game, there are the normal one or two player options, but there is also a third – two of you can take on the computer. Each team can be managed by a different player, so it's easy to set up a league between you and your friends.

PROMISING

European Champions looks promising. The detailed sprites look as though they are about to burst out of your TV screen and are easy to handle. And although the screenshots seen here are from the Amiga version of the game, we are reliably informed that there should be little difference between them and the STE offering.

The game is being marketed by Ocean but the team behind it, Audiogenic, are responsible for other sports simulations such as *Graham Gooch World Class Cricket* and *World Class Rugby*. Have they produced another "World Class" game this time? Watch out for a full review soon in ST Review!

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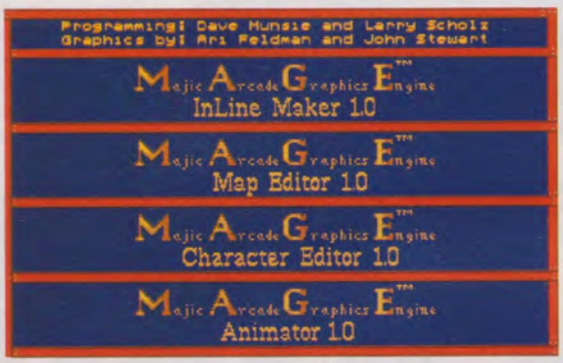

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GAME PLAY

Will Shakespeare reads the introduction and explains all about the bloody War of the Roses.

Selling England by the pound? There's an accurate map of the country along with indications of where everyone is.

KINGMAKER

Strategy, intrigue and warfare are brought to the screen in this recreation of the Wars of the Roses. Richard Barton dons his armour and heads into battle...

Quiet at the back, it's time for a history lesson...

Almost 20 years ago, a board game was released to the delight of role-playing addicts everywhere. Having sold hundreds of thousands of copies, it has finally been converted to a computer game. Perhaps "game" is too trivial a word for *Kingmaker*, as it is a deeply involved simulation of the Wars of the Roses.

Potentially, there are nine people who can sit on the throne of England. For the House of Lancaster there's Henry VI, Margaret of Anjou, Edward (Prince of Wales) and Beaufort (Duke of Somerset); the House of York has Richard (Duke of York), Edward (Earl of March), Edmund (Earl of Rutland), George (Duke of Clarence) and Richard (Duke of Gloucester). To capture one of these people, you must lay siege to the city, town or castle that they reside in.

Beaufort is slightly different from the other royals. He begins the game as an ordinary noble and can only be crowned king if the other three Lancastrians are all killed. The fate of England is in your hands – it is up to you to lead a faction in victory, to control an heir and ultimately, have them crowned king of all England. To do this, you must be brave, devious, cunning and lucky, too.

Details of Warwick are easily obtained. It pays to keep an eye on your enemies as well as your friends.

A closer view of an area of the country shows Norwich and the surrounding countryside.

Once you have control of a royal, he or she follows your army under the control of one of your nobles. You can control more than one royal, but only from the same house (York or Lancaster) but if you do happen to have more than one, you can have any or all of them executed at any time – such power! Your next task is to destroy the opposing factions, which is no easy task.

ROYAL HIERARCHY

Crowning an heir is no simple task. To win the game, you must control the last crowned royal, which means that you have to either see or personally supervise the killing of the others. Some may be killed by your enemies and others may fall into your hands as the result of winning a battle or a siege. You then have to decide whether to execute them immediately, or keep them alive until the moment is right. The final surviving heir must be crowned, but if others are still alive the order of succession in each house must be observed. For example, Margaret of Anjou can only be queen if Henry VI is dead; Edward, Prince of Wales can be crowned only if Margaret is with her husband in the grave. There could be two kings, one Lancastrian and one Yorkist, so the battle will continue until one or other is defeated.

In order to become the crowned head of england, the heir must occupy a cathedral, which can be found in several of the cities or towns from London to St David's or Salisbury. He or she must also be accompanied by at least one archbishop or two bishops and at least one noble of your faction. If all

of these conditions are met, your heir is automatically crowned.

CROWN POWER

Controlling a crowned king gives you powers that are way beyond mere common people, but there are drawbacks. On the positive side is the ability to call parliament, make laws and give additional assets to your faction's nobles, but only if there is a single king. If there are two, then the chancellor has this power instead.

On the other hand, your king can be called upon to meet with embassies of foreign lands in various parts of the country. This can disrupt your plans and divide a strong army into two smaller ones that are easier to defeat. Of course, the king could be called to an unfortified town making him easier to capture.

PLAYING KINGMAKER

Kingmaker is a one player simulation – it's you against the computer. When the game is first loaded, there are several options before you can get started. The first choice is whether you want to load a saved game or start a new one. You can then choose how many factions are going to be controlled by the computer and oppose you. You choose between one and five factions, one being the easiest to defeat. Next choice is whether you move first (*Allocate Blind*) or you get the chance to see where the computer places his men before you (*After Computer*), the latter being the easier option.

The advanced options do not make the game more difficult, but they do add to the challenge. If you select Advanced Weather, then the computer decides whether your next move is made in fair or bad weather. The latter limits moves to three areas per turn, increases the risk of storms at sea and removes the ability for combat or siege.

Anyone caught in an outbreak of plague using the Advanced Plague option, has a 25 per cent chance of being killed outright. It doesn't restrict itself to towns and cities and can spread through the rural areas too.

The titles you can bestow on your Nobles include Archbishop of Canterbury.

If you feel that the game is daunting, don't worry – you're not alone. To assist in the familiarisation of the game, a three level option called Autohelp is provided. Full Autohelp automatically gives advice on all aspects of the game as you play; First-use Autohelp displays each piece of the tutorial just once as you play.

CONTROL

The game is mouse-controlled and different menus appear at the appropriate times offering you your options. You can allocate titles, men and even ships to your nobles, send them out on their mission to find a royal and, if necessary, crown or execute them. Apart from a large map of Britain, there are close-ups and clicking on the shield displayed on a castle brings up all of the information relating to that noble or royal.

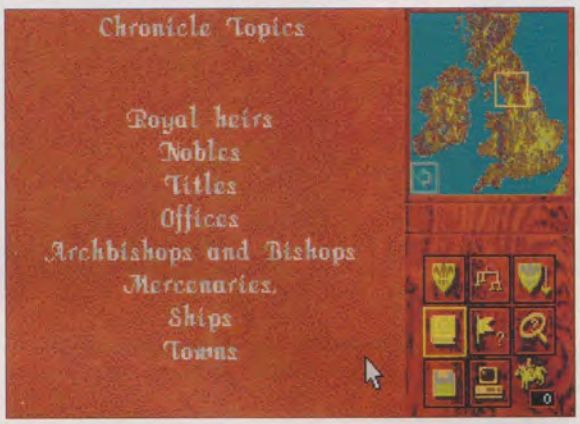
The Autohelp option is a great advantage to learning the game. It doesn't offer tips on strategy, but it does tell you what options are available to you.

VERDICT

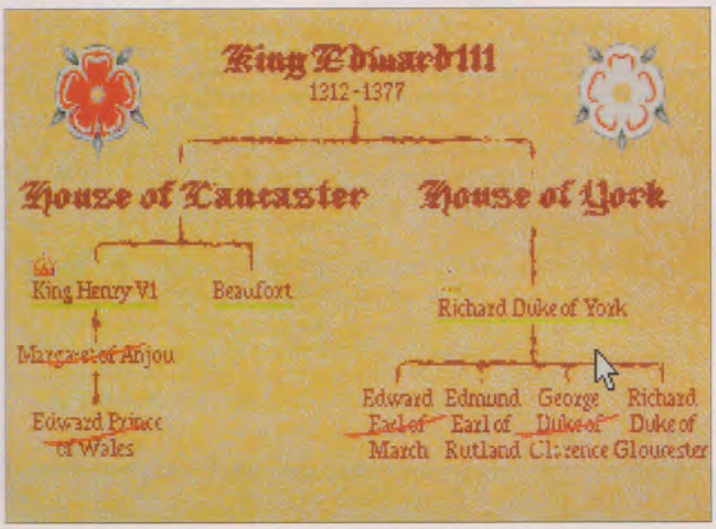
This is not a game that you will complete quickly. In fact, it'll probably take you a few evenings just to work out the controls! However, it is an historically accurate account of the Wars of the Roses with the added bonus of being intelligent and challenging. A monitor is advised rather than a television set as the text is quite small and could cause eyestrain.

Kingmaker can be installed on your hard disk drive, but needs to be in low resolution to run. This is one feature that should be included in all games, especially the type that involve a lot of loading and up dating.

The recent tendency to port games from the PC means that they come on a number of disks (although *Kingmaker* is only two), so to save a lot of disk swapping, a hard drive is thoroughly recommended.



The Chronicles option gives you a choice of what to review.



The Family Tree shows the status of the royals. The crossed-out names have already been eliminated!

A French raid and Courtenay is summoned to Oakhampton...

✓ Superb detail
✓ Historically accurate

PROS AND CONS

✗ Small text
✗ Computer moves and floppy disk access slow

"Superb attention to detail makes Kingmaker an excellent challenge for any simulation freak."

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RELEASE DATE: OUT NOW
MIN MEMORY: 1MB

GRAPHICS	★★★★★
SOUND	★★★★★
VFM	★★★★★
PLAYABILITY	★★★★★
OVERALL	87%

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You can also choose between the ST and Falcon versions of the games at no extra cost.

ISHAR

On its release for the Falcon, *Ishar* was awarded 89% and very highly praised. It's a role playing game with plenty of puzzles and twists to keep you entertained.

You start in the middle of a field with little idea of where you are or what you're supposed to do. Once you visit the village and speak to a few locals, you quickly begin to realise that the task ahead of you is not an easy one...

ISHAR II

A classic example of a sequel that is as good as the original! You can import your characters from *Ishar* to give you an edge at the start of this challenge, and the action takes place on a series of very different islands. Great graphics and a very playable game make this an essential addition to any RPGer's collection!

TRANSARCTICA

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Dave "Poundsaver" Jones takes another dip into the budget goody-bag with three from Hit Squad...

VFM

ATARI ST REVIEW BUDGET BUY

TOKI

HIT SQUAD • £9.99 • 061-832 6633

IN BRIEF: The evil powerful sorcerer, Bashtar has turned the proud and mighty warrior Toki into an ape so letting him kidnap our hero's girlfriend, Miho.

Your job is to battle your way through the six levels of mountains, fire, water, ice, a forest and finally, Voodkimedlo Castle, home of the wizard himself. Once this is achieved, you can rescue Miho and be turned back into a man. There are icons to collect that will help you in your quest. Watch out for five different types of shot from what can only be described as spit balls, a helmet for protection, a watch that will give extra time, a baby Toki for an extra life and coins – thirty give you an extra life. The icons can be found lying around or by shooting various creatures. The coins drop from flying fish-type animals, for example.

End of level monsters can all be defeated by finding a safe position to shoot from and, of course, special weapons help.

ST REVIEW COMMENT: The graphics are excellent and the game play is challenging and enjoyable. If you like a good platform game, then *Toki* is for you.

★★★★★

Guide Toki through the levels and help him win back his girlfriend and his body!

SUPER SPACE INVADERS

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IN BRIEF:
The original *Space Invaders*, it could be said, started a whole new era in video gaming. In 1991, it reappeared in the arcades as *Super Space Invaders*, complete with a little story and new graphics. The basic game play is the same but there are extras too. Each screen has a background, which can actually make the little blighters hard to see, but they come at you just as fast! Shooting the saucer at the top releases power-ups that help you through the level, but try to make sure you have one available for the end-of-level guardian or you almost certainly won't make it.

There are hidden levels and a Cattle Mutation bonus screen, in which you have to stop the alien saucers from stealing cows from the field.

ST REVIEW COMMENT: *Space Invaders* must be the most well known game in the universe. Although it shows its age, it's still immensely playable and will keep you going for a long time to come. The original proved that you don't have to have outstanding graphics to make a game playable, but this adds to a classic and drags it into the nineties.

★★★★

Arcade action brought up to date with Super Space Invaders.

CHASE HQ II

HIT SQUAD • £9.99 • 061-832 6633

IN BRIEF: Another arcade conversion sees the second of the *Chase HQ* games released on budget. This is more of the same with improved graphics and faster game play.

As a member of the Bureau of Special Criminal Investigation (SCI for short), you have to chase and capture six members of a vicious gang. Then you discover where they have hidden the mayor's daughter, who they've kidnapped and are keeping in a warehouse somewhere on the south side of the city. You receive a clue to her whereabouts at the end of each successful capture.

You have 60 seconds to catch up with the criminal and another 60 to stop him by shooting and ramming his car. As with the first game, you have a limited number of Nitro boosts that speed up your progress and help you, but you must use them wisely. It is best to wait and use them when you are about to ram the criminal's car as this do more damage.

ST REVIEW COMMENT: Nice graphics, if a little jerky, and a faithful reproduction of the arcade game all add up to a twist to the usual racing/driving games, although the sound could be better. Once in a while, you need to have a game that is not brain-taxing and is just out and out fun.

★★★★

Capture the criminal to gain another piece in the puzzle and save the Mayor's daughter.

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KUBES

THE ST CLUB • DISK NO: GAM.213 • £1.45 • MEMORY: 0.5MB • SHAREWARE

IN BRIEF: *Kubes* is an interesting twist on the *Columns* theme. The aim of the game is to match coloured squares as they glide down the play area, but unlike the original there's no way to move the falling pieces! Instead, you need to arrange the squares that have already landed – unusual eh? Believe it or not, this tricky scheme works quite well, although the fact that you can't use a joystick is annoying. As the levels progress things speed up and longer lines of colours need to be created.

Kubes is basically a sound game, but the stylish intro leads you to believe you're in for something a little more exciting.

In terms of presentation, *Kubes* is rather special. A commercial style intro kicks things off nicely and there are no complaints on the graphics or sound front – both are very classy indeed. The concept itself is playable enough too, but you can't help wishing that the programmers had put as much effort into devising an original game.

ST REVIEW COMMENT: "If you think you can stand another *Columns* clone, *Kubes* is well worth checking out. It's very well presented and plays nicely, but could do with an extra injection of originality."

A little extra originality and Kubes would be a classic – as it stands, it's good, but not that good.

LOCATION UNIVERSE 3D

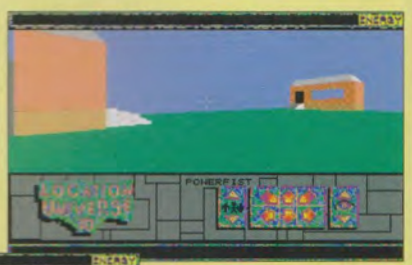
NEW AGE PDL • DISK NO: POWER.13 • £2.95 • MEMORY: 0.5MB • LICENCEWARE • FALCON-COMPATIBLE

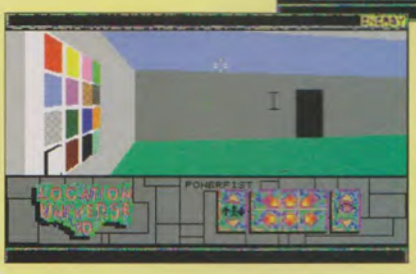
IN BRIEF: The "Empire" has you trapped in its prison-camp, and the only chance of escape is to find the lock code which the enemy have carelessly left laying around – somewhere. Once you've found all six parts, it's a quick dash to the keypad to open a portal to the next level.

A lot more thought has gone into producing *Location Universe* than most *3D Construction Kit* games. Instead of using millions of objects and slowing the screen updates down to a crawl, the emphasis is firmly on gameplay. Attention to detail hasn't been forgotten either; if you smash a window, it stays smashed and the game comes up with an unending supply of witty messages. Having said that, it is still a *3DCK* game. The graphics won't send a tingle down your spine and speed is only relative – it's still a bit jerky at times.

ST REVIEW COMMENT: "*Location Universe* is one of the better *3D Construction Kit* offerings. The gameplay benefits hugely from the "keep it simple" approach and the puzzles are set at a manageable level. All in all, a very nice game!"

The aim of each level is to return here with a six-colour access code – collect four access codes and you've completed the game; easy innit?





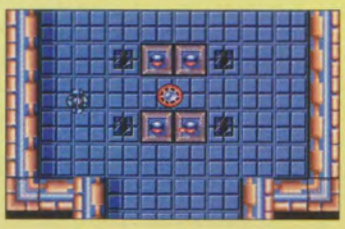
The puzzles are set at a reasonable level and simple scenery keeps the screen updates well up to speed.

SEVEN GALAXIES

MERLIN PD • DISK NO: POW.3 • £2.95 • MEMORY: 0.5MB • LICENCEWARE

IN BRIEF: If you have fond memories of an arcade game called *Alien Syndrome*, *Seven Galaxies* could be right up your street. The grizzled astros may have been replaced with a service droid in the nineties version but when you get back to basics, the concept is remarkably similar.

The idea of the game is to wander around a spaceship wasting the nasty aliens which have somehow managed to make their way aboard. It's not too difficult because none are even vaguely intelligent – they follow a regimented path and fire in exactly the same direction, so it's just a case of waiting and picking them off when the time is right. A puzzle element has been added in the form of door-passes, and flip-screen scrolling is used to keep things up to speed. As with all Powerfist games, the graphics are of a high standard, although the sound effects are a bit tame for a shoot-'em-up.



It may have a "puzzle" veneer, but deep down Seven Galaxies is an out-and-out shoot-'em-up.

ST REVIEW COMMENT: "Even though the action isn't frantic, *Seven Galaxies* still sits some way above most PD blasters. The Alienesque scenery is beautiful, although a few more lifelike nasties would improve the game – the "metallic" look just isn't menacing enough."

In space, no one can hear you vacuum. Can a service droid really cut it as a super-hero? I think not!

DOMINOES

TUMBLEVANE PDL • DISK NO: BY NAME • £1.50 • MEMORY: 0.5MB • SHAREWARE

IN BRIEF: Let's face it; dominoes is not the ideal candidate for a sports sim. Nevertheless it hasn't stopped Nebula Entertainment coming up with this souped up version of the classic table-top game.

The play area sits to the right of the screen, while your pieces are on the left. When it comes to your turn, you simply click on the piece you want to use and the computer will position it for you. If the line is taller than the screen, a button allows you to toggle between a top or bottom view. In the shareware version you get a choice of three opponents – Easy Elaine, Unsure Ted and Tricky Tony. The players get better as you move up the scale and registration buys a whole host of new contenders. Unfortunately, there isn't an option that lets you give up and start building houses with the pieces!

ST REVIEW COMMENT: "*Dominoes* makes the best of a very tricky task. It may sound as dull as ditch water, but give it a go and you'll be pleasantly surprised – just prepare to be beaten by your grandparents!"

Only three competitors are available in the shareware version, but the fiver registration buys a whole host of mean opponents.

Game on – only quick reflexes and a few hints from your grandmother can save you now! Beats the world chess championships wouldn't you say?

BRAIN DAMAGE

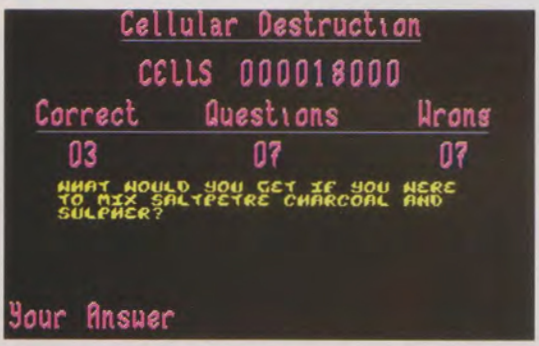
GOODMAN INTERNATIONAL • DISK NO: GD.2068 • £2.75 • MEMORY: 1MB • SHAREWARE • FALCON-COMPATIBLE

IN BRIEF: Word games are always a public domain favourite, but this little teaser from DCS is likely to drive you insane if you're not careful! The aim of the game is simple: preserve your brain! This is achieved answering questions correctly and increasing your "cell count".

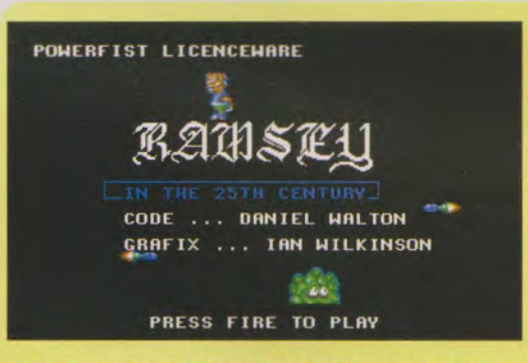
As with all DCS games the presentation is faultless, but the game itself could have done with more thought.

As you'd expect from DCS, the presentation is nigh on perfect with sound samples and cute graphics sprinkled liberally throughout. The real problem though, is that the game doesn't give you the correct answer when you get a question wrong, so there's absolutely no way it will teach you anything! The parser isn't that clever either – for example, if you answer *who had a hit with Going Underground?* as "The Jam" you'd be wrong, because the only answer it will accept is "Jam". This fast becomes annoying and you end up loading the question file into a word processor just to "discover" answers that you already know!

ST REVIEW COMMENT: "The presentation and sound FX are great, but the simple fact remains that an educational game should teach you something, and *Brain Damage* doesn't. What an apt title!"



Now how would you answer this question? Should you put "gunpowder", "an explosion" or "fire"? All are correct, but only one will be accepted.



25th Century is the first in a series of Ramsey games. A few more levels and part 1 could be considered a classic!

LORD RAMSEY IN THE 25TH CENTURY

LAPD • DISK NO: L.57 • £3.00 • MEMORY: 0.5MB • LICENCEWARE

IN BRIEF: Cast your mind back to the mid-eighties – do you remember games like *Finders Keepers*, *Knightmare* and *Jet Set Willy*? Well, *Lord Ramsey* aims to recreate the success of these classic arcade-adventures on the ST.

You play the part of Ramsey who finds himself marooned on a hostile planet somewhere in space, The simple objective is to escape and you'll find numerous helpful objects scattered around the landscape to help you do just that. Of course, the whole place is swarming with aliens that need to be dispensed with in the usual way (once you've found the laser of course!).

In general, the game plays very well, although there is a small amount of slowdown when a few objects appear on-screen. Each game is limited to ten minutes, so you need to get your skates on if you don't want get beaten by the clock.

ST REVIEW COMMENT: "If arcade adventures are your thing, Lord Ramsey is almost perfect. It could certainly do with a few more levels, but at £3 it's well worth the money. Besides which, any game that uses Star Paws as intro music has got my vote!"

Collect the orbs, solve the puzzles and escape to freedom. Agreed, it's a hackneyed plot, but with playability like this who's complaining?

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A 520 STe is usually supplied with two 256K SIMMs and has sockets to plug in two more – it's that easy! A few do not have sockets, in which case you will need a pair of adaptors. These may need soldering; if this is the case, we will supply the sockets at no extra cost – that's service!

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This month continues the Atari ST Review campaign to get every ST owner to upgrade the memory of their machine to at least 1MB and to have all those useful items – at the right price!

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Why do we run offers? Well ST Review is dedicated to letting you get the best from your ST. We're the finest ST magazine editorially, with the prime cover disks – and the essential items like memory, joystick cables and mice at affordable prices.

Let's look at our memory upgrades. It appears that many of you are finding it difficult to believe our prices and keep asking us how we do it. For instance, our 2Mb and 4Mb boards are much cheaper than the competition, but then we are ST Review, probably the biggest supplier of memory upgrades in the UK! Our research suggests that we have over 50% of the UK market for STFM upgrades which says something for the power of our mag. Yes there is a memory chip shortage but no, it has not affected our supply yet hence our very competitive prices.

Did you notice our book list in the last issue? It has been a while since any ST magazine has run such a page. We've noticed how difficult it can be to get books so our Book Offer page is intended to be a permanent addition. If you can think of any ST-related or interesting titles that you think should be considered, don't hesitate to drop me a line.

We've been told on good authority that Christmas is coming on the 25th December this year, so guess what – there's an ST and Falcon Games Offer with the excellent Ishar, Ishar II and Transarctica up for grabs. Check out page 60 for more on this.

Have a good Christmas and look out for our January 1994 issue on the 30th December...

FREE DELIVERY!

TURN OVER...

...for more readers' offers and details of ordering by fax or post

SEE THE PREVIOUS PAGE FOR OUR SENSATIONAL MEMORY UPGRADE OFFERS!

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Don't let this happen to you. UVK detects and kills more viruses than any other virus killer. We use it at *ST Review* – so should you!

EXISTING USERS CAN UPGRADE – CALL FOR DETAILS

TRACKBALL

Do you use your ST for art, graphics, DTP or music? Then you really should consider our state-of-the-art, 162 dpi trackball, as used by the editor of this magazine. Movement from one side of the screen to the other is effortless and cursor motion is rapid and smooth, far more so than with a mouse. The feel is superb thanks to the high quality micro switches under the buttons. There's also a third button that acts as a locking left button – ideal for continuous scrolling, painting or line drawing!

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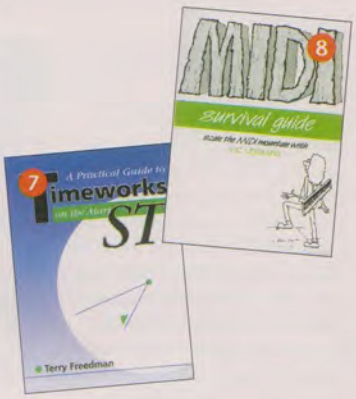

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PD ZONE

MANCIOLA AND AERIUS

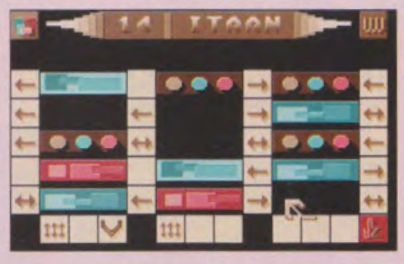
ATARI ST REVIEW BUDGET BUY

GOODMAN INTERNATIONAL • DISK NO: GD.2023 • £2.75 • MEMORY: 0.5MB • SHAREWARE • FALCON-COMPATIBLE

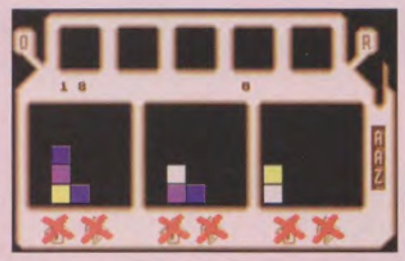
IN BRIEF: Any country that produces camembert cheese and berets has got a lot to answer for. Still, as long as they're turning out games as good as *Manciola* and *Aerius*, I for one am prepared to take the rough with the smooth!

The idea of both games is to match colours. *Manciola* lets you slide the shapes around using control icons whereas *Aerius* only allows them to be moved in layers – it's a bit like a twist on the *Columns* theme. When two or more similarly coloured shapes touch, they disappear – it's as simple as that. Both provide an unlimited supply of lives, and a password system is used to allow you to restart an old game.

French prompts are the order of the day, although *Aerius* comes with English instructions. The graphics and sound match the playability and as if that wasn't enough – both games are fully Falcon-compatible.



Simply use the movement icons to match the blocks. Easy? – Just you try it!



Aerius runs along similar lines to Manciola – the idea is to match the colours by switching layers between the three columns.

ST REVIEW COMMENT: "Words cannot describe how truly addictive these games are. They may seem like simple concepts, but start playing and the temptation to master "just one more level" is immense! In fact, I'm trying to forget how much time I've spent playing them this week!"

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CPX MODULES

FLOPPYSHOP • DISK NO: UTL.3879 • £2.50 • MEMORY: 0.5MB • SHAREWARE • FALCON-COMPATIBLE

IN BRIEF: *XControl* is one of the most useful pieces of software Atari have ever written. It takes a leaf from the Macintosh book in providing infinite expandability through the use of CPX modules. As you've probably guessed by now, this disk is a compilation of the best public domain and shareware modules available.

The collection kicks off with the usual range of pointless games, including mastermind, solitaire and a rather nice tiles affair called *Horror Puzzle*. On the utility side of things, there's a module to change file attributes, a formatter which includes support for high density disks and dozens more besides. You'll find that most of the prompts are in German, but in 99% of cases it's possible to work out what each button does. *XControl* itself is also included with the collection, so you can boot from the floppy and decide which modules you want to use before copying them to your hard disk.

The CPX collection contains a good mixture of games and utilities – the Solitaire module makes a great break from any GEM application.

ST REVIEW COMMENT: "If you're an *XControl* fan, this collection is essential. It comprises just about every CPX module ever released into the public domain and there's bound to be something to tickle your fancy."

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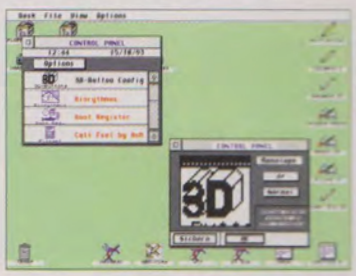


Some of the modules are in German, but it's easy enough to work out what you have to do.

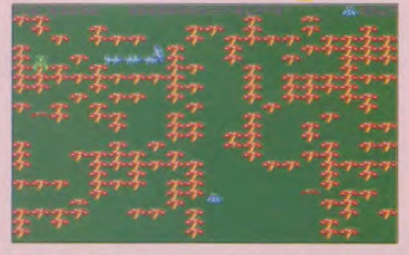
ST INFORMER – FEBRUARY 93

THE ST CLUB • DISK NO: CMP.16 • £1.45 • MEMORY: 0.5MB • SHAREWARE

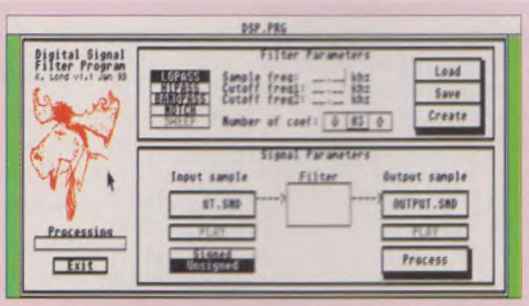
ATARI ST REVIEW BUDGET BUY

IN BRIEF: *ST Informer* is the American equivalent of the ST Club disk magazine. It aims to compile the very best public domain and shareware released every month onto one highly compressed disk.

The leading lady this month is a reworked version of *Maxidisk*, the reset survivable RAMdisk. Version 2.2 is much faster than its predecessor and now works reliably with overscan hardware, although it's still not Falcon friendly unfortunately. If *Maxidisk* sounds a little bit too much like hard work, you can always give *Centipede* a go. This is a pixel perfect rendition of the old arcade classic, which is as smooth as silk and plays like a dream. Other assorted highlights include *Master Cache* and *DSP*, a nice little sample processor. All of the programs are archived with LHARC, but full instructions are included to help you get started.



Centipede takes centre stage on February's ST Informer – clones don't come much more faithful than this.



For sample-tinkering there's little to touch DSP – it's ideal for adding that atmospheric touch to your latest mega-game!

ST REVIEW COMMENT: "A truly excellent collection of utilities, which are let down only by the unfriendly archiver. *Maxidisk* and *Centipede* alone are worth the price of the disk, so look on everything else as a bonus!"

●●●●●

DISKS OF THE MONTH

AUTODESK ANIMATIONS

FLOPPYSHOP • DISK NO: F.3937 TO F.3942 • £3.00 EACH • MEMORY: 2MB • PUBLIC DOMAIN • FALCON ONLY

IN BRIEF: When it comes to animation on the PC, there is only one package – *Autodesk Animator*. The public domain is littered with mini-epics in its home-grown FLI format and this collection of six high density disks brings the very best of them to your Falcon.

All the classics are here, from the spinning clown right through to *Robotruck* and they look every bit as good on the Falcon as they did in their native PC environment. There's a small amount of judder during some of the faster animations, but even real PCs suffer this problem! The star of the show is undoubtedly *Heart and Sole* which shows a life-size heart beating alongside a shoe on a marble floor – the shading is enough to send a shiver down your spine! If you're looking for excitement, other highlights include a flight aboard a stealth fighter, a trip on a roller-coaster and a rider's eye view of a motorcycle race. In general the quality is quite high, although do bear in mind that if you've been to a computer show, you've probably seen most of them already!

All of the old favourites are here, including this fellow who has made an appearance at every PC show since the year dot.

At 40 seconds, Flight is the longest animation, but it occupies a colossal 1.4 Mb of disk space...

Of course the only reason these animations can be enjoyed at all on the Falcon is thanks to an FLI player. This little program needs to be run in a high resolution screen mode and is very basic, but at least it does the job. The documentation suggests that it should be installed as an application, but the simpler drag-and-drop method seems to work equally well.

ST REVIEW COMMENT: "These animations aren't jaw-dropping stuff, but they do make quite a good demo of the Falcon's graphical abilities. The main problem is the length – even a full high density disk can only contain a few seconds of footage and £3.00 is quite a lot to pay for momentary entertainment. Then again, what disk collection is complete without a few pointless animations? If you want to be impressed go for F.3937 or F.3938 – *Heart & Sole* and the skeletal hand are the pick of the bunch."

★★★★

Picture the scene: the hand rotates once before fading into skeletal form and pointing towards you – gripping stuff!

Heart and Sole should take pride of place in your animation collection – watching the heart beat alone on the desk is an experience not to be missed.

TOP TEN DISKS OF THE MONTH

1 MANCIOLA & AERIUS • GOODMAN INTERNATIONAL • DISK NO: GD.2023 • £2.75 • MEMORY: 0.5MB • SHAREWARE • FALCON-COMPATIBLE
If puzzle games are your bag, this disk will drive you wild! It contains two of the most addictive brain-teasers ever released and what's more both run perfectly well on the Falcon. French instructions are the order of the day, but that's all part of the fun *n'est-ce pas*?

2 MANDELBROT MANIA • DISK NO: ART.3871 • £2.50 • MEMORY: 0.5MB • SHAREWARE • FALCON-COMPATIBLE
A collection of the very best mandelbrot programs to be released over the past few months. Particularly useful is a generator that produces 24-bit pictures on any ST. Unfortunately, it only writes in the non-standard RAW format, but the supplied conversion utility soon solves that problem.

3 FROM PICTS TO PARLIAMENT • THE ST CLUB • DISK NO: EDU.49 • £1.45 • MEMORY: 0.5MB • PUBLIC DOMAIN
Trying to find an interesting way to teach your kids the basics of British History? *From Picts To Parliament* takes an irreverent look at the history of our country from the word go and is quite amusing if you don't take it too seriously.

4 CPX MODULES • FLOPPYSHOP • DISK NO: UTL.3879 • £2.50 • MEMORY: 0.5MB • SHAREWARE • FALCON-COMPATIBLE
This disk contains just about every CPX module ever released and is an essential purchase for utility fiends. Highlights include the excellent *HD-Info* and a rather neat implementation of *Solitaire*. None of the modules are very recent, but it's nice to find all the classics tidily compiled onto one disk.

5 ST INFORMER • FEBRUARY 1993 • THE ST CLUB • DISK NO: CMP.16 • £1.45 • MEMORY: 0.5MB • SHAREWARE
A neat collection of archived public domain and shareware from the States. A cracking little *Centipede* clone (written in the UK funnily enough) heads up this month's disk while *DSP*, *Master Cache*, *Maxidisk* and *Silk Mouse* follow closely behind. The extraction process could be easier, but the contents are top-notch.

6 BOMBOUT BROS COMPILATION • THE ST CLUB • DISK NO: GAM.166 • £1.45 • MEMORY: 0.5MB • PUBLIC DOMAIN
Three games go to make up this slick compilation from the BombOut Brothers. *Laser Race* and *Mad Mole* are nothing special, but *Alien Blockade* is rather good. It's based on a recent SN*S game and while the graphics aren't quite as stunning, the playability remains intact.

7 CONNECTIONS • THE ST CLUB • DISK NO: UTI.315 • £1.45 • MEMORY: 1MB • PUBLIC DOMAIN • HI-RES ONLY
Switch on to the world of multimedia presentations with *Connections*. It does lack colour, but it's remarkably competent in all other areas and is an educational dream come true!

8 DSP ROUTINES • NEW AGE PDL • DISK NO: FALC.20 • £2.00 • MEMORY: 1MB • PUBLIC DOMAIN • FALCON ONLY
If you're interested in DSP programming you won't want to miss this disk. It contains over a megabyte of source code written specifically for the 56001 and several help files to describe what's going on. Definitely not one for beginners!

9 CHEAT GUIDE & EASY WRITER • FLOPPYSHOP • DISK NO: UTL.3881C • £2.50 • MEMORY: 0.5MB • PUBLIC DOMAIN
If the last level of *Blaster Tron* has got you stumped, don't despair – the *Ultimate Cheat Guide* is bound to contain the answer. And once all your gaming worries have been solved, try your hand at demo programming with *Easy Writer*!

10 AUTODESK ANIMATIONS • FLOPPYSHOP • DISK NO: F.3937 TO F.3942 • £3.00 EACH • MEMORY: 2MB • PUBLIC DOMAIN • FALCON ONLY
If you want to see what your Falcon is capable of in the animation department, give these wee beauties a look in. All have been ported from the PC; the quality is pretty good and a "drag and drop" Falcon player is included with each disk.

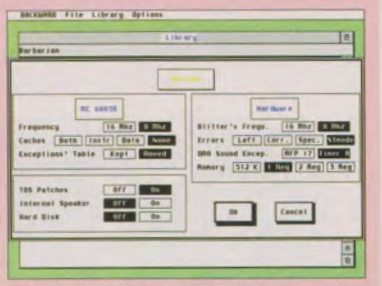
PD ZONE

BACKWARD II

GOODMAN INTERNATIONAL • DISK NO: GF.40 • £3.25 • MEMORY: 4MB • SHAREWARE • FALCON ONLY

IN BRIEF: *Backward* is yet another attempt to turn your Falcon into a fully functioning ST clone. Unlike previous attempts such as *Magic Boot* however, it goes further than playing with the hardware and actually patches TOS for maximum compatibility.

Initial impressions are very favourable – *Gods*, *Hard Drivin'* and *Dragon's Lair* all work perfectly and plenty of others run with limitations. On the PD front, quite a few classics are resurrected from the dead, although STOS productions still refuse to talk to the joystick ports. Perhaps the biggest surprise is that some STE incompatible games run – *Barbarian* from Palace being a prime example! Even so, the claims of 75% compatibility are a trifle optimistic – 50% is probably nearer the mark.



In principle, Backward II is similar to Magic Boot, but TOS patches push it well up in the compatibility stakes.

Hard Drivin' is one of many ST games that Backward resurrects from the dead – it's no faster, but at least it runs!

The program is aimed very much at the games market, so don't expect incompatible utilities to be magically revived. More often than not, the machine crashes as soon as it encounters GEM.

ST REVIEW COMMENT: "Having seen the first version of *Backward* I was very sceptical about version 2's claims, but what can I say – it really works! A five star rating will be awarded as soon as the author has devised a way to get *F16-Falcon* running!"

★★★★

HUMANS DEMO

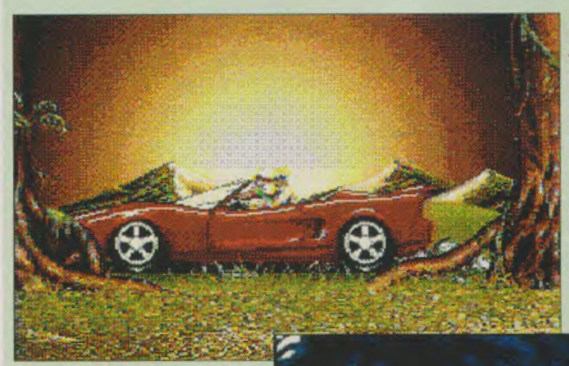
FLOPPYSHOP • DISK NO: F.3931 & F.3932 • £6.00 • MEMORY: 2MB • PUBLIC DOMAIN • FALCON (RGB) ONLY • HARD DISK REQUIRED

IN BRIEF: Cast your mind back to the release of the Falcon – do you remember the announcement of a forthcoming *Lemmings*-style game called *Humans*? Well, this demo was the source of the screenshots. It takes an animated look at the history of "the humans" with more than a little humour thrown in for good measure.

The demo starts with a look at how fire was discovered and goes right through to the first encounter with alien life. Each animation is punctuated with a peek at "The Daily Rock" to describe what's going on and the expressions on the faces of the characters are classic. All of the graphics are in 256 colours and the soundtrack is excellent, if a little repetitive. The demo comes "zipped" onto two HD disks and requires around three megabytes of storage space to run, so a hard disk is essential.

ST REVIEW COMMENT: "*The Humans Demo* is very entertaining, although the repetitive soundtrack lets the side down a bit. One thing is for sure – it's going to be one heck of a game if it ever makes the market!"

★★★★



If cutesy graphics are your cup of tea, you'll like the Humans Demo – the animation is truly stunning.

The demo is broken down into several sub-sections – here the Humans discover fire and, naturally, chaos ensues!

ULTIMATE TRACKER

FLOPPYSHOP • DISK NO: F.3962 • £3.00 • MEMORY: 1MB • SHAREWARE • FALCON ONLY

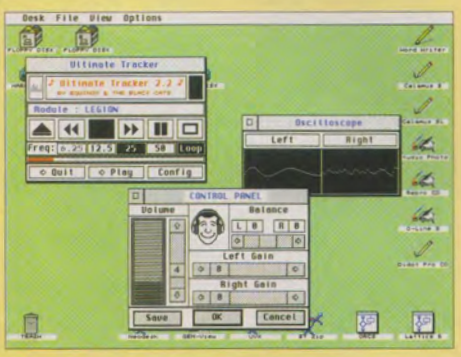
IN BRIEF: If you like listening to music while you work, the *Ultimate Tracker* is the program for you. It's a module player like no other, because it works as a desk accessory alongside most GEM applications.

A VCR-style dialogue box heads the whole thing up and from here you can play, fast-forward and rewind the current tune. There's no discernible speed loss while a module is playing and the sound quality is out of this world at 50kHz, especially if you have your Falcon linked up to a stereo system.

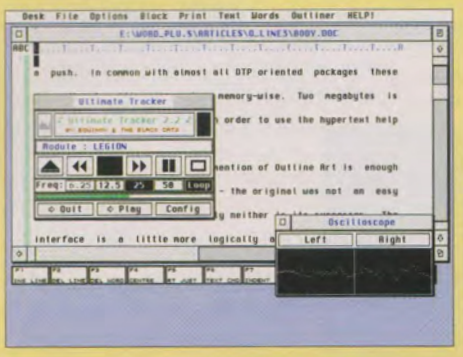
Providing you leave the oscilloscope window closed, compatibility is extremely high, although be warned – crashes are frequent when using *MultiTOS*. Also be sure to use one of Atari's sound-patch programs, otherwise things are likely to go horribly wrong.

ST REVIEW COMMENT: "Superb sound quality, a beautiful GEM front end and no speed loss – what more could you ask for? A greater degree of *MultiTOS* compatibility would be nice, but it's tons better than the blank-screen brigade!"

★★★★



A classy GEM interface fronts up the Ultimate Tracker and the sound quality is truly superb at 50kHz.



Unlike most tracker players, the Ultimate Tracker runs as a desk accessory, so you can listen to your favourite sound module while you work.

TUMBLEVANE PDL

6 West Road, Dept STR, Emsworth, Hampshire, PO10 7JT
Telephone: Emsworth (0243) 370600

DISK PRICES:
£1.50 each.
£1.00 each for 10 or more
unless otherwise stated

UTILITIES

UTA01: THE HITCHIKERS UTILITIES, which includes a document displayer, BOOTDRIVE, select which drive to boot from. BOOTWAIT, boot up both the ST and hard drive at the same time. BSSS, store boot sectors. CUSTOM, allows you to create disks of almost any format. DISKAT, database your collection and many more. With full manual.

UTA02: STICKER 3, create labels for your disks with a selection of icons that printout onto the label.

UTA03: FASTBASE DEMO, ICON, change your desktop icons. HEADSTART, auto boot any type of program from an auto folder. ON SCHEDULE, work schedule program with bells a very good printout routine.

UTA05: SUPERCARD V1.3, an index card database, easy to use and very fast search feature. Comes with a database of game cheats. CHEF, an electronic cookbook with 300 recipes each with cooking instructions and ingredients.

UTA19: TLC BOOK, an excellent on line address book and date reminder which holds up to 500 names and addresses. Has a good printout routine. DATABASE, a good database construction kit. SUPERBOOT, allow you to create custom bootup disk. TARADESK, a good PD desktop replacement program. COCKTAIL SELECTOR, a database of cocktails (600+).

UTA06: FASTCOPY 3, A-COPY, PRO-COPY and several other copying programs and utilities. ZAPMENU, a great way of launching programs from the desktop. ARCSYS, one of the better arc progs, PACK ICE, the other arc program.

UTA28: AWARD MAKER, a useful program for producing award certificates. Design your own or use one of the 120 already on the disk.

UTA34: DB MASTER 1, this has got to be the best answer to your database problems, design and configure your own! Very easy to use.

UTA36: DATA EDITOR, enter your data and the program turns it into easy to read graphs. PIE, BUBBLE, OPPOSED BARS, FLOATING BAR, 3D BAR, STAR BAR graphs can be produced, stored and updated at any time. Many students have used this program for their course work.

UTA37: WG DATA, another database, but for younger users to learn how to construct and use a database. For the 11+. DATABASE CONSTRUCTION SET, a powerful program that allows the user to design your own way of processing information. SANDP, a newsletter/magazine program.

UTA39: IDEALIST V3.1, a versatile program for printing out text and offering lots of helpful functions to use your print in clever ways. 4 selectable sizes, up to 9 columns, separate output of fonts and pages, editable headlines and includes fonts for dot matix and laserjets.

UTA40: CALAMUS SUPPORT DISK, METACON, converts Calamus fonts to Text metafonts. FASTPRT, accessory to speed up printing to the HP laser. GUNTH, sample graphics in outline format. LASLABEL, template for printing 3.5 inch disk labels. CANON printer driver for the BJ10E.

CAL_FNT text file describing Calamus font format. HPDJPTCH, a patch for the HP deskjet printer and a few other small programs.

UTA43: A disk full of accessories and utilities, ideal disk for those who do not wish to buy a disk for each type of utility.

UTA45: MAILMERGE, a good program for those with a WP package without this utility.

UTA46: INVENTORY PRO, an easy to use inventory system and stock control for the small business.

UTA48: SAGROTAN V1.14, THE VIRUS KILLER in the PD world.

UTA51: 70,000 word dictionary, replace your standard spelling checker with this and you will be onto a winner.

UTA52: FOOD AND WINE MENU MAKER, an excellent database that stores and prints out a menu for both wine and food.

UTA53: GERMAN TRANSLATE, one of the better translation programs that makes sense of those German documents on some PD disks. Does it all for you.

UTA55: HP CHROME, prints colour pictures in Degas and Neo format utilising deskjet printers. HYPERBASE, a multi media database, you can create windows holding test, graphics or sound and link them together. CLIPART, for use with Hyperbase. UNIPRINT, a Hi res Degas Elite printing program for 24 pin printers.

UTA56: HP DESKJET UTILITY DISK 1, printer drivers for use with 1st Word. ENVELOPE PRINTER, JETLABEL, JETSET, set parameters on your deskjet. LASERJET, print at 300 dpi and loads of other useful utilities.

UTA57: ASTUBANK, a personal accounts program that will tell you how much you can spend in any one month.

UTA58: HARD DISK UTILITIES, everything you need to look after and maintain your hard drive.

UTA60: MANUAL MAKE, a utility for putting together neat and tidy printed manuals.

DISK BOXES

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GAMES

GM05: Bermuda Race 2, Yacht racing at its best.

GM13: FMC trading, space trading game. Laserball & Regatta, sail against 10 other countries.

GM14: Football manager, lead the England team to victory, and Milegame, a great motor racing game played with cards.

GM16: Hardcore & Floyd the Droid, two blast everything in sight games.

GM21: Llamatron & Revenge of the Mutant Camels, as above but from the Master of such games, Jeff Minter.

GM26: Airways, Flight Sim (not a blaster).

GM27: Blaster, defender type game. Wheel of Fortune, as per the TV show. Monopoly & Pentominoes.

GM38: Pipe Perfect, build your pipeline before the flow starts.

GM40: Tennis, Plumb Crazy, build a pipeline again. Virus Killer, a so-so virus killer.

GM42: Penguins, a Lemmings type game with 40 levels. Great fun, good enough to be a commercial game.

GM43: Mystic Well, a very addictive Dungeon Master game from the USA with loads of levels and puzzles to sort out.

GM48: Crossword Editor, create and solve crosswords.

GM52: Battle for the Throne, a great RPG that takes some time to complete.

GM54: Bog, Fuzzball, Trivia, Time Bandit, Wall Street, Quizwiz & Yahtzee. Quizzes and blasters all on one disk.

GM69: Ozone, an award winning platform game that has everything in it, including a hang glider.

GM76: Master Break, good Breakout clone. Atom, Blaster & Spaceball.

GM75: Drachen, a 3D Mahjong game. Super Game, a good track and field game.

GM78: Violence, a very good Xenon type shoot-em-up game.

GM82: Smash Hit Tennis, tennis at its very best.

GM87: Pub Games, Pool, Darts, Cribbage, Pontoon and Checkers.

GM88: Hunt for Grey November, control your hunter-killer plane in its search for rogue sub's.

GM97: Fatemaster, a great arcade romp on an alien planet with an alien super spy. 1 Meg.

GM106: Mindlock, another great quiz game from D. Cobbledick. 1 Meg.

GM109: Colour clash, from the same people who gave us Fatemaster, this time you need to use the grey matter as well as the trigger.

GM113: Galaxians & Mrs. Munchie, two blasts from the past. A Pacman clone and Space Invaders given a revamp.

GM114: Course Angler, a good game and a fun way to learn how to fish, no sitting around for hours once you know.

GM120: Brain Damage, D. Cobbledick at his very best. Watch your brain cell count drop as you fail to answer the questions.

GM121: Walls of Illusion, a new Dungeon Master type game with commercial quality graphics and gameplay. THIS IS A MUST HAVE.

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COLOUR £11.50

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CLEANING KITS
Each cleaning kit will clean out three cartridges ready for new colours to be injected. Each pack costs just £3.49

ART

AAG01: PALETTE MASTER art package. DEGASAVE, save the screen in Degas format. MANDEL, Mandelbrot prog. Plus a few other small progs.

AAG04: DALI V3.1, art package from France. Not much in the way of instructions.

AAG05: CRACKART V1.0, almost the last word in art packages comes with complete English manual. 1 Meg required.

AAG06: FRACTAL ZOOM, probably the fastest generator of fractals around. Full manual on the disk.

AAG07: A disk full of Fractal programs and utilities. A 3D CAD program. Full manual on disk.

AAG10: ST CAD, runs in Med or Hi res. DBANNER, printout 5 inch text along printer paper. REMINDER & MEMO & LOOKER.

AAG11: ANI ST, a great animation program that once sold for over £80.

AAG21: Picture Converter, a complete disk of picture converters. SHOWTRIX, display your art work with different fades between each one.

AAG22: PUBLIC PAINTER, an art package for mono monitor owners. On disk manual.

AAG26: PICTURE WORKS, load, save various picture formats and do amazing things with them.

AAG27: MINIDRAFT V1.10, easy to use CAD prog.

AAG28: MONOIC Viewer, copy clipart, add text and draw simple clipart, you can also print out and save in most formats.

AAG29: PAINTPOT, a simple and easy to use art package for half meg owners.

AAG35: CREATIVE TITLES, create titles for your Christmas videos, add the professional touch.

AAG38: CRACKART V1.36, the latest version of this excellent art package with several new features. 1 Meg.

AAG39: ATARI IMAGE MANAGER, whatever you need to do with images this is almost sure to do it. 2 disk set.

AAG43: GEMVIEW V2.30.

MOUSE MATS

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- Get better control, give your mouse a smooth surface to run across with better traction.
- Protect your working area, durable nylon material protects your desk from scratches and prevents the mouse mat from slipping while you work.

£2.50

EDUCATION

EAC01: PERFECT MATCH, question and answer card game, MATHS TEST. For the under 10's. QUIZICAL, a good general knowledge trivia game.

EAC02: BODY SEARCH, designed to help children learn the human anatomy as required in elementary and junior school. THE SEARCH, a computer aided enquiry program. Search the village for info about the Gliggs family. MATHMAZE, a very good maths program that grows with the student. TRIVIA, another good general knowledge test, some of the questions are based on the USA.

EAC06: SHIPWRECK, an excellent maths program that combines graphics and easy and hard levels of play. The childs interest is held by turning the learning process into a game where correct answers help the character on the screen to escape his fate. HANGMAN, the old school room favourite that helps with spelling.

EAC07: ABOUT THE HOUSE, control a butterfly as it moves around the house. As it lands on various objects a description is given and some animation takes place. ME, displays four pictures of a task that must be placed in the right order, once this is done the scene is animated. Help the child undstand that most tasks need several steps to complete.

EAC09: CHUNNEL, a good French/English tutor. SPANISH VERB TUTOR, this program is designed to help you learn, revise or check the proper conjugation of Spanish verbs, can be initialized to communicate in French, English, Spanish or German.

EAC10: NOAHS ARK, a good game for teaching children spelling and word recognition. SPIDER SPELL, a very good spelling aid for younger children.

EAC11: MATHS MADE EASY, for the younger ST user, the program teaches maths in all four disciplines by talking to the user thus keeping interest levels high. GEOGRAPHY QUIZ, one for the slightly old user, the test is based on flags or capitals of the world.

EAC14: COLORAID, designed to give the younger ST user an insight into how a computer creates colour. AIKEN, design a man made from fruit, CREBUS writer allows the user to design and print rebuses, a rebus is a code in which pictures and symbols are used in place of words. Several other programs on this disk.

EAC18: THE WORLD, an excellent program that teaches you about and quizzes you on the countries of the world.

EAC19: PLANETARIUM, if you are into astronomy then this is for you. Pick a star from the map and click on it and all the info you want is there. It will also animate past or future events. Full manual on the disk. MONO.

EAC20: TELLTALE CHEMISTRY by E. Mills Bsc, PhD. An interactive program on the basics of chemistry, the program relates to GCSE grades A, B and C, good graphics & explanations of atomic structure, electron structure, formulae compounds, etc.

EAC21: CIA WORLD FACTBOOK, a four disk set of everything you want to know about over 240 countries. If you wnat to know how many people live in Albania, what the birth rate is, death rate, who they are upset with, where they sell their products or just about anything else then this is for you. A document display is also included on the disk. £5.00 for the set.

EAC29: WORKOUT V1.0, a general purpose learning aid for either question & answer tests or learning passages by heart. This program conforms partially to the C.I.L.T. guidelines on computers, language learning and may be of use in the classroom.

DTP & WP

WPD01: ST WRITER ELITE V4.1, an excellent WP package that works in all three resolutions.

WPD02: EASY TEXT + DEMO, a fully working demo of this DTP program but you can only print out the top quarter of any A4 page.

WPD03: TYPING TUTOR, teach yourself touch typing with this program, several levels of lessons have been built into the program.

WPD05: FIRST WORD, an excellent WP program that features WYSIWYG on the screen. 1ST WORD UTILITIES, help with 1st Word. DOUBLE TTP, print your text in columns. LARGEPRINT, lets you printout in large text.

WPD22: OPUS V2.2, a very good spreadsheet program with an excellent chart printout routine.

WPD14: CALAMUS MANUAL, your second manual for all those things that are not made clear in the official version. Written by a professional user of Calamus.

WPD15: PRINTER DRIVERS for 1st Word users covers just about every make of printer, comes with full installer & instructions. WORD COUNTER. WPTOOLS, a selection of WP utilities for 1st Word.

WPD18: PAGESTREAM FONTS, Postscript screen fonts for the following fonts:- Artistic, Creative, Hudson, Letter, Gothic, Oriental, Saturn, University and Roman.

WPD19: PRINTING PRESS V3.10, the closest thing to a full DTP program in PD. Also on the disk is a picture converter.

WPD22: PRINTING PRESS EXTRA'S, a disk for use with WPD19 containing extra fonts and clipart.

WPD23: DB WRITER V1.8, a very good WP program for Hi res users which can be used by both half meg and 1 meg machines. A manual on the disk gives a good guide to the program.

WPD24: DB WRITER SUPPORT DISK, includes a comprehensive thesaurus and a selection of dictionaries covering Medical, Legal, Computer and Biblical terms. You can also add your own with a utility on the disk.

WPD25: A utility for designing and downloading fonts to the STAR NL10 & LC10. Hi res only with loads of fonts ready to use. Can be used with an emulator.

WPD26: GUTENBERG PRESS, allow a 9 pin dot matrix printer to be used as a NLQ printer, load in ASCII files and print them out in high quality format and a selection of fonts.

MUSIC AND MIDI

MUM01: ACCOMPIANIST, a 16 voice sequencer for use with any model of ST, with room for over 10,000 notes, multi-recording with separate MIDI channels and a wide range of editing utilities.

MUM02: IN CONTROL, a user definable MIDI controller with over 20 sliders that can be programmed to control your midi instruments. SCONVERT, compress or expand sound samples.

MUM18: 1632 voices for use with the Yamaha DT/TX series of 6 operator synths with a file reader for loading the voices directly via the midi. A varied and useful range of voices on the disk.

MUM19: TRI-SOUND SEQUENCER, a chip/digi-chip 3 channel music sequencer.

MUM20: SAMPLE EDITING DISK, a disk full of useful programs for editing, sampling and converting. Also on the disk is a chip music tracker to create your own music.

MUM21: MIDIDRUM & MIDIPLAY, two useful programs for creating sounds with a drum machine and Midiplay is a basic sequencer. German documents with English version on disk. 1 meg and Mono.

MUM22: TX81Z V2.1, a mouse driven Yamaha TX81z editor. MIDIMOVER, a powerful midi file converter from Hybred Arts Freeware.

MUM24: ALCHIME Jr V2.22, this has got to be one of the best musical sequencers for the Atari anywhere. Comes with over 200 tracks for your use and has far too many features to list.

MUM57: FINAL SCORE, a graphic based fully WYSIWYG score writing program from Mainstream Music. Draw staves, line squares, 5 selectable score fonts, print preview mode, etc. Printer drivers now added for most makes of printer.

MUM58: ROLAND 'D' SERIES SOUND BANKS, a bank of tones for the D5, D10, D20, D110 and GR synths.

A CATALOGUE DISK with our complete range of software is available for just 50p with any order or for £1.00 without an order.

The disk has over 200k of free PD and a selection of secondhand commercial software for sale.

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LICENCEWARE

We also stock licenceware by Powerfist, Organised Chaos, Virusoft and HeavenSent.
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- A complete support service
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New Age PDL

THE BEST FOR ST AND FALCON 030!

THE ATARI FALCON

At New Age PDL we are supporting the new Falcon 030 101%. We currently have a huge stock of Falcon specific and enhanced software all on High Density (1.44 meg) disks. We also fill these disks to capacity wherever possible to give you the best possible value for money. We now have a dedicated Falcon catalogue containing loads of free software including utilities, demos, music and a game. This catalogue is COMPLETELY FREE to new customers with your first order – just ask for it.

ALL FALCON DISKS £1.75 EACH ONE FREE WITH EVERY 4 BOUGHT!

FALCON ART & GRAPHICS PROGRAMS

FALC 1 - POV Raytracer, fully zipped, expands to 3 meg of hard drive space!
FALC 3 - Birdy 2 Animation (4 meg+), very cute! Cyrel Palette Master demo.
FALC 8 - Fractal DSP, Fractal Zoomers, IFF, GIF, RAW & TGA viewers, Bit Camera for altering raster images, Speed of Light 2.6, F-Paint, Chagall demo, Slideshower.
FALC 16 - Lexicor demos (zipped): Chronos 1.2, Pheonix 0.91, Prism Paint 1.0.
FALC 37 - Fractal Playtime, Gemview 2.48, Delmpaint, Gix Gif, Binaris 2.0 + more!
FALC 95 - Geotech - landscape generator, Neochrome, Photo Studio demo + more!
FALC 98 - Chloe demo, Overlay demo 1.03 (zipped), Pixart demo 1.02.
FALC 102 - Raystart demo 1.1, View XGA, IMG converter.

FALCON PICTURES & ANIMATIONS

FALC 12 - Disk 1 of a three disk set of Truecolour 24-bit pictures using the POV raytracer. Outstanding quality! Buy FALC 12-14 for £5.00. RGB/TV.
FALC 18 - Japan Demo - two zipped disks of Truecolour XGA pictures with viewer. Disk 2 on FALC 19. Photographic quality! Requires RGB/TV.
FALC 31 - Temptation! The first disk of an EXCLUSIVE pack of JPEG pictures of gorgeous girls. Excellent quality pictures and the three disk pack contains no less than ninety pictures! Yes 90! Disks 2 & 3 on FALC 32 & 33.
FALC 34 - The Chippendale Auditions. This time a disk of gorgeous blokes!
FALC 38 - FLI Animations: AS Lamp, Balloon, Bart, Glass, Hands, Bounce 2.
FALC 39 - FLI Animations: A3DS, Apple, B Ball, Bugs Bunny, Chubb, Cone, Tigercat
FALC 40 - FLI Animations: AD Logo, Chopper, Dinosaur, Dogbot, Frog, Earth.
FALC 41 - FLI Animations: Bartboard, Betty Boop, Clown, Fish, Marylin, Forever.
FALC 42 - FLI Animations: Dust, F14, Ghostpen, Handmort, Wave Log0.
FALC 78 - Japanese Cartoon Pictures - the first of a 4 disk pack of JPEG's from cartoons such as Akira, Dragon Balls etc. Over 140 pictures on all 4 disks!
FALC 85 - Startrek Pictures - JPEG's from all series.
FALC 86 - Startrek Pictures - more JPEG's as above.
FALC 87 - Boat Pictures in JPEG format. 27 pictures in all.
FALC 88 - Dog Pictures in JPEG format. 43 pictures on all varieties of dogs.
FALC 89 - Animal Pictures - the first of five disks of all sorts of mammals. (JPEGS).
FALC 90 - Animal Pictures - more of the above. Even more on FALC 91, 92 & 93.
FALC 99 - Car Pictures in JPEG format - Ferraris, Porsche's, Lambo's, Mercedes etc.
FALC 100 - Car Pictures in JPEG format - more flash cars. A third disk on FALC 101.

FALCON DEMOS

FALC 6 - Cebit '93 (RGB), 1600x600, 3DTT, Paragon, Convention (RGB Superb!).
FALC 9 - Grotesque (Excellent!), Gourad, Speeder, Plasma 30 & 50, Intel + more!
FALC 11 - Morphing demo - requires 2 Meg memory + hard drive space. + 3 more!
FALC 27 - Left Donut by Griff (RGB), EKO (RGB - Outstanding music!), Big Digi.
FALC 96 - When Dreams Become Reality (RGB), Warum (RGB), Inconvex (RGB).
FALC 97 - Fuji Ray animation - zipped requires 2 meg memory + hard drive space.

FALCON MUSIC RELATED PROGRAMS

FALC 7 - FoRtune for creating cites, Protracker 2, TCB Tracker, Desktracker 1.11.
FALC 17 - Winrec 1.35 (D2D), Wincut for editing Winrec samples, Hardchor (D2D).
FALC 29 - Startrek Cites for Fortune, Dame - Digital Audio Multipayering Editor.
FALC 52 - System Audio Manager 1.1 - assign samples to events, Digitape 2 demo.
FALC 68 - 49 Wav samples for System Audio Manager.
FALC 73 - Another 41 Wav samples for System Audio Manager.
FALC 82 - Protracker 50Khz modules: Come & Get me, Pugsy, Tripout, Hardcore etc.
FALC 83 - As above: Freudian Dreams, Goodbye, Harry, Intro, Journal + 5 more.
FALC 84 - As above: Watch Your Bass Spin, Boom And She Cums, Fin + 4 more.
FALC 94 - Mjuzakk - Huge sound player program. Zipped, expands to 2 meg.

FALCON GAMES

FALC 21 - Humans Demo disk 1. Zipped, expands to 3 Meg. Disk 2 on FALC 22.
FALC 35 - Nethack 3.1.1 - 2 Meg memory+. Brilliant dungeons and dragons game.
FALC 103 - Oxyd (excellent!), Des Lasers et Des Hommes (3D shoot em up), Masters of Chaos (Dungeon Master clone), Tron, Ishar Editor, Mario Kart demo.
FALC 104 - Spacola (RGB) - great space shoot em up, Madtris (RGB) - crazy Tetrus!, Vertical Mayhem (RGB) - nice version of Columns.

THE ATARI ST/STE

New Age PDL in now in it's third year of business supplying top quality ST/E software. We now have over 1500 disks of some of the best PD, Shareware and Licenceware to suit all tastes. Just look through our advert ot get an idea of the huge range that we carry. Our disk based catalogue describes every single program in detail, has a beginners section and is very easy to use - it's also COMPLETELY FREE to new customers! Just ask for it, there's no need to send any disks or SAE's. If you are an existing customer and you would like an update then send back your disk with a stamped SAE.

HIGH RESOLUTION GAMES

GAME 1 - Anduril, Eliminator, Galaxy, Gilgalad, Mini Golf, Bubble, Runner, Space War, Tetris, Play Thing, Once 'A King.
GAME 8 - Diamond (Boulderdash), Invaders, Macpan, Megaroids (Asteroids), Minefiled, Missile, Murray, Solitair, Spreng.
GAME 22 - Checkers, Larn, Trucker, Stocks And Bonds 3, S-Tetris.
GAME 28 - Payramid, Escape, Sokoban, Cube World, Battleships.
GAME 30 - Air Traffic Control, Go-Board, Munchers, Pong, Puz Puz, Trivia, Go-Up.
GAME 33 - Bolo (Excellent breakout game), Super Breakout, Baseball.
GAME 34 - Pork 1 & 2 - spoof Zork type adventure games, Enchanted Realms.
GAME 37 - El Bozo's City, Paranoia, System 5, Tark - all text adventures.
GAME 38 - Net Hack v2.3, Scribble, Sherlock, Zarge, Checkers.
GAME 39 - Eamon Fantasy Role PLaying Kit, DDST - dungeons and dragons.
GAME 50 - Jeopardy, Clueso, Airline Manager, Locomotive, Bandwurm, Hextris.
GAME 76 - Hack & Slay Construction Set, Chess, Match-it, Crossword Editor 2.
GAME 112 - Risky Construction Set, Roulette, Yatsy, Backgammon, Poker, Pai Gow.
GAME 125 - Cyote Dave's Poker, Deena, Cribbage, Tectic, Fast Poker.
GAME 167 - Thriller - a nice ball/maze game with nice graphics and samples.
GAME 168 - Napolean - a 'Risk' style game of war and strategy.

COLOUR GAMES

GAME 2 - Startrek game - NOT STE (1 Meg+). Life version 3.
GAME 9 - Othello, Queboid, Spooks (Pacman), Yahtsee, Centaurian (NOT STE).
GAME 11 - A Question of Snooker, Pinball, Devestator, Roll n Nudge, Ranger.
GAME 16 - Ship Combat, MAD, England Team Manager, Motorcycle Simulator, Pulse Rider (tron), Empire Builder, Key to Atlantis.
GAME 68 - Squidge, Fruit Machine, Pin Game, Rocket Ball.
GAME 78 - Popeyed - apop music game with an adult theme.
GAME 81 - Battlescape, Blox - brilliant variation on the Tetris theme.
GAME 83 - Grandad & the Holey Vest - superb animated adventure. 1 Meg+.
GAME 94 - Hocman 2 (1 Meg+), Dungeons, Wheel of Money 3.
GAME 104 - Blat! - A very nice version of Tetris. STE ONLY.
GAME 105 - Infiltration - 3D game, Ozone, Atomik Robokid.
GAME 117 - Fast Freddy - lovely platform game with superb graphics.
GAME 121 - Darklyte - great Isometric 3D war/strategy game similar to Hero Quest.
GAME 122 - Last Arcadian - fly around + blast everything. Hoverjet Simulator Meg+.
GAME 123 - Top Trainer (horses), Anarchy Academy - wreak havoc in school. Boing.
GAME 128 - Dungeon Lord - good Dungeon Master Clone. Arch Mage-shoot em up.
GAME 131 - Glass Buttock of Tharg - save the land from the evil buttock! - 1 Meg+.
GAME 132 - Psycho Pig - two disk platform game, very cute. £3.00.
GAME 135 - Grey Matter - difficult brain teaser from DCS, Splat! Picardy, Galactic.
GAME 136 - Chaos 1/2 Meg version - classic spectrum game converted. Lettris.
GAME 138 - Puccer - a bit like Ice Hockey, Rayoid.
GAME 139 - Grandad II - the sequel to Game 83, comes on 2 disks 1 Meg+. £3.00.
GAME 143 - Brain Damage - the biggest, most difficult brain teaser yet form DCS.
GAME 145 - Jiggsy - a cute cross between a jigsaw and sliding puzzle.
GAME 146 - Chaos - the full 1 Meg version of Game 136.
GAME 147 - Freaked Out - nice puzzle game. Shift-it (1 Meg) - another good puzzle.
GAME 148 - Operation Blue Sunrise 3 - massive STAC adventure game. 1 Meg+.
GAME 150 - Course Angler 1.02 - go tackle fishing on your ST!
GAME 151 - Sim Pig! - a brilliant pig farm simulation! Like Sim City & Sim Earth.
GAME 153 - Wormhole - nice vertically scrolling shoot em up with slick graphics.
GAME 154 - Midi Zap - multi-player asteroids. A Highly Suspicious Aquarium.
GAME 155 - Three Realms of Suspicion - STAC adventure. Spaceball - like Ice Hockey.
GAME 157 - B17 - bomb the building, F-16 - very good flight game, 8 missions.
GAME 158 - Viking III - shoot em up/strategy game. Demon - but like Xenon.

THE KEYSOFT COLLECTION

Two disks which are EXCLUSIVE to New Age PDL! Disk one (GAME 159) contains Spielarum 1.2, a 3D game. Plus Kakrivs - the sequel to Speilarum, again in 3D and lastly Mysterious Realm which is an introductory level adventure game. Disk 2 (GAME 160) contains 4 shoot em ups called Starship Troopers, Auto Destruct, The Jack Peters Story & Melanias Revenge. Buy the disks individually at £1.50 each or both for £2.50!

£2.50

GAME 161 - Frooty - fruit machine sim (Not TOS 1.4+), Fallers.
GAME 162 - Baby Mugluck - platforms + ladders, Entombed - more platforms!
GAME 163 - Theme Park Mystery, Combat - kill everything!, Summaria.
GAME 164 - The Obscure Naturalist - STAC adventure with lovely graphics. 1 Meg.
GAME 165 - Quiz Master - quiz that actually has answerable questions! STE only.
GAME 166 - Nirvana - platforms, Pure Logic, Maze, Chain Reaction - columns.
GAME 169 - Megaline - a new four player version on Tron/Light Cycles.

BUDGIE GAMES - £2.75 EACH

BUGAM 83 - Cyberstorm, a very slick Defender game, really fast!
BUGAM 89 - Horse Racing Simulator for 1 to 5 players. Buy/sell and bet!
BUGAM 100 - Clad Hopper - lovely version of Manic Miner from the 8-bit days.
BUGAM 103 - Aptitudes - 7 modules to test your personality and gives a report.
BUGAM 104 - Jetpack - another faithful clone of a classic Speccy game.
BUGAM 111 - International Cricket - a very good cricket simulation.
BUGAM 113 - Football Tactician - formerly a £20 release! Excellent!
BUGAM 119 - Football Tactician - the Premier League 92/93 season.

POWERFIST GAMES - £3.00 EACH

POWER 1 - Snott 93 - previously commercial playable platform game. 1 Meg+.
POWER 2 - Ghalfa One - four levels of alien blasting chaos!
POWER 3 - Seven Galaxies - extremely slick shoot em up, one of the best so far.
POWER 4 - Hunchy 1066 - go back in time with some artillery for this classic!
POWER 5 - Deluxe Nostrum - great flip screen arcade adventure. 1 meg+.
POWER 6 - Deluxe Nostrum - the 1/2 meg version.
POWER 8 - Power Cut - fly-around-blast-em-up with 25 power bases to destroy!
POWER 9 - Lord Ramsey in the 25th Century - great cartoon-style caper.
POWER 11 - Snott 93 - the 1/2 meg version. Plus PDOS 1.5.
POWER 13 - Location Universe 3D - escape four taxing levels of this brill 3D game.
POWER 14 - Castle Capers - wonderland platform game set in a haunted castle.
POWER 15 - 'Ees Lost His Marbles! - Huge adventure written in STAC.

CREATIVE INFLUENCE GAMES

CI 01 - Genocide - Populous/Sim City type God Game. Given 'Essential Buy Award' in ST Review magazine. £3.95.
CI 02 - Dark Carpathian - 3D game with good attention to detail. £2.95.
CI 03 - Guerroyer - another God game. ST Review said 'The Best Licenceware game of the year - without a doubt'! Unmissable! £2.95.
CI 04 - Shockwave - brilliant version of Asteroids with powerups etc. £2.95.

ART & GRAPHICS

ART 1 - A disk full of 23 miscellaneous utilities including viewgif 1.2.
ART 35-37 - In Bed With Madonna - over 100 pictures. STE enhanced. £4.00.
ART 51 - Crackart 1.36 - latest version of the best ST art package! 1 Meg+.
ART 128 - Gemview 2.48 - new version of this superb viewer/converter.
ART 137 - Basic Instinct - Near Photographic Quality pictures! State STE or STFM.
ART 144-149 - Seduce Volume 2 - the sequel to the highly successful seduce! Six disks of lovely ladies, two versions (please state which) - one for STFM and the other for STE's taking advantage of a 32,768 colour palette! EXCLUSIVE to New Age! Only £7.50. 60Hz (may not run on TV's). Many more packs available - ask for our catalogue.
ART 156 - Madonna's Book - twenty pictures from her famous book. STE only.
ART 157 - PAD 2.4 - English version of this high res drawing package. 1 Meg+.
ART 172 - Paintshop Plus 2.03 - A commercial quality drawing package.
ART 180 - Paintpot - an ex-commercial painting package which was £15.00

DEMOS

DEMO 307 - Deeper and Deeper by Madonna. 1 Meg+.
DEMO 305 - Rain by Madonna. 1 Meg+.
DEMO 303 - Erotica by Madonna. 1 Meg+.
DEMO 300 - U Got 2 Let The Music by Cappella (excellent!) - 1 Meg+.
DEMO 295 - Boom! Shake The Room by Jazzy Jeff & Fresh Prince. 1 Meg+.
DEMO 293 - Life, Mission Control Mix by Haddaway. 1 Meg+.
DEMO 292 - What is Love Passion Mix by Haddaway. 1 Meg+.
DEMO 289 - Wheel of Fortune Club Mix by Ace of Base (Brill!) - 1 Meg+.
DEMO 288 - Trance Action 5 - I Feel It, Smythe Mix by Moby - 1 Meg+.
DEMO 287 - Trance Action 4 - U Got 2 Know by Cappella - 1 Meg+.
DEMO 284 - Trance Action 1 - No Limit, Automatic Fast/Slow mix. 1 Meg+.
DEMO 283 - Mr Vain by Culture Beat - the smash hit Euro single - 1 Meg+.
DEMO 281/282 - The PETE demo - great megademo by many good groups. £3.00.
DEMO 277/278 - Believe The Music by Redlite. STE and 1 Meg only. £3.00.
DEMO 276 - E605 - a great STE only demo by Percy of Light.
DEMO 274/275 - Dreamzone - the latest megademo from the Wild Boys. £3.00.
DEMO 273 - Right Here by Sisters With Voices - 1 Meg+.
DEMO 270-272 - The Omikron Megademo - takes up 3 disks! 1 Meg+ - £4.00.
DEMO 264 - Romeo, Petit Papa Noel, Sinful Sinuses - 3 STE only demos.
DEMO 260 - Waiting For The Falcon demo.
DEMO 258 - Brutal Techno - Fantastic STE and 1 Meg only demo.
DEMO 254 - Bedlam Demo - turn the lights down, the music up and trip...!
DEMO 251 - Great Techno Compilation - 5 brilliant pieces of techno music.
DEMO 248 - Fire Demo - sampled music form the Prodigy. STE & 1 Meg only.
DEMO 247 - It's My Life - the great Dr Alban song - 1 Meg+.
DEMO 242 - Music Dream II - 9 superb 50Khz tunes by E.T. - STE only.
DEMO 231 - Dreams - the number 1 hit single by Gabrielle. 1 Meg+.
DEMO 229 - All That She Wants by Ace of Base - the debut number 1. 1 Meg+
DEMO 225 - No Limit by 2 Unlimited - 1 Meg+.
DEMO 222 - Tribal Dance - another 2 Unlimited hit. 1 Meg+.
DEMO 200 - Grotesque Demo - amazing rave music etc. 1 Meg STE only.

SOUNDTRACK MUSIC

TRAC 115 - 2 Unlimited Rock, Lost Forever, Moonchild, Techno '93.
TRAC 114 - Acidpan, Delight, I Feel Love, No Limit, Popcorn, The Scene, 1993.
TRAC 113 - Boom! And She Cums! Do Ya Trust Me? Know What To Say. STE only.
TRAC 111 - Empty Spaces, Taik yor Tym, Listen 2 The Rhythm, Hardcore. STE only.
TRAC 110 - Midnight at Noon, Watch Your Bass Spin, Hardcore Hypno 4. STE only.
TRAC 107 - Burntout, Deadlock, Ex-Sight, Hey DJ, Lullaby, New Jack Solo.
TRAC 105 - Alright, Daft Trip, Juicy, Moody, Two, Mod 3 (Techno Tunes).

£1.50 EACH
Unless otherwise stated

New Age PDL

UTILITIES (ANY RES)

UTIL 2 - Startgem, Head Start 1.1, DC Clock, Disk Checker, Hard Disk Utils, Ram Disks, Hack 'n' Copy, Turtle 3.0 (HD backup), Megaformat, Memory Test.
UTIL 3 - ST Almanac, Class 3.0 - combinaton spreadsheet/database for teachers, Treesaver - prints several pages on one to save space - good for long docs.
UTIL 4 - Pools 2.5, ST init 3.4, Switcher - loads programs faster, 20 DC utilities.
UTIL 5 - F-Copy 3, DC Showit, Desk Manager, Disk Scan, Mono Emulator 5, Spool, DC Stuffer (loads 32 accs), Speech Synthesiser, Mouse Accelerator.
UTIL 6 - James The Butler, London Phone Codes, MenuSYS, Pinhead, Super Calendar Batch Startup, Auto Sort, Postmortem, No Bombs, E-Disk, 9 Quick Utilities.
UTIL 12 - Jam Packer 4, Wind-XES (Modulator control panel), Satellite 4.01, Clock Set.
UTIL 13 - German to English translator, fast Print, DC Salvage, MiNT, Maccel 3.0.
UTIL 14 - Printer Drivers inc Canon Bubblejet, Qume Daisywheel, Brother + Epson.
UTIL 15 - Calculator, D-Copy 3.08, Directory Printers, Guardian Virus Detector, Label Maker, Recover, Sector Editor, Virus Die, CLI, Diary, Reboot, Mousetrap.
UTIL 16 - Chameleon - loads and unloads accessories without having to reboot, Sticker 3.0 (mono only), Definitive File Selector, Super Virus Killer, Benchmark.
UTIL 19 - Your Second Manual, Jokes, GDOS info, Bombs info + several magazines.
UTIL 30 - Superboot 8.1, Build Your Own Scanner, Report Writer, Disk Cleaner.
UTIL 35 - Cheetah 1.1 (high speed copying util), Rainbow TOS patches, Unarj 2.2.
UTIL 38 - Printer Drivers inc: KXP 1124, Star LC24, NEC Pinwriter, Brother, Canon, Citizen, HP Deskjet, Oki, Qume, Taxan, Toshiba, Riteman, Atari.
UTIL 40 - Loads of packers inc: Atomik 3.5, Automation 5, Dragon 3, Fire 2, Ice 2.4, Pompey 1.9, Speed Packer 2, Branch Always Packer. + Multi Depacker 1.5
UTIL 42 - Intro Maker - mix pictures, sprites, scrolls and music together. Colour only.
UTIL 45 - Kaos Desk 2.01, Terra Desktop 1.36 - replacement desktops.
UTIL 46 - STOS Shoot em up builder kit 0.6 - colour only.
UTIL 51 - Form Finder 2.2 - horse racing predictor which is easy to use. Colour only.
UTIL 53 - TOS Version 1.0 - allows you to run programs that don't run on your TOS.
UTIL 54 - Message Scroller, Archiver Shells, Envelope Printer Demo, Mega Cracker.
UTIL 55 - Spectrum Emulator 1.2 - run Speccy games - includes Hobbit, Manic Miner
UTIL 57 - Revenge Doc Displayer 3.0, Wordfinder 3.0, Desktop.inf configurator.
UTIL 58 - Career Themes Inventory and Personality Tester - great fun!
UTIL 59 - Neodesk patches - upgrades 3.01 to 3.02 and 3.02 to 3.03.
UTIL 60 - JC Label 1.3, Jon-Dos 1.7, Flowchart Compiler, Boot Time 2.0, Multisync.
UTIL 61 - Rename It, Zoo Archiver 2.1, Insert Date, Marrow, Shadow Ramdisk.
UTIL 62 - BJ Chrome 1.1, Desk Master, Crocery Lister, Silk Mouse, Auto Load, Blitz.
UTIL 63 - JC Calendar 0.3 - an extremely pleasant and flexible calendar maker.

BUSINESS (ANY RES)

BUSI 1 - Invoice And Statement Generator demo, Sales Controller - High Res only.
BUSI 2 - Sheet 2.0, Dbase One, First Base 1.6, Home Budget Template.
BUSI 3 - Fastbase 2.0 - demo, fully functioning but with limits.
BUSI 4 - Opus 2.2 - brilliant spreadsheet. 1 Meg+.
BUSI 5 - WG Data, ST Sheet, Visi Clone - three more spreadsheets.
BUSI 6 - Double Sentry Book Keeping System, Address Book.
BUSI 7 - Astubank 1.1 at - complete home accounts system - colour only.
BUSI 8 - G-Base - a graphical database designed for importing graphics. Colour only.

MUSIC & MIDI

MUSIC 1 - Noisetracker 1.5 - a popular soundtracker creator with samples & source.
MUSIC 2 - Samples disk 1. works with most soundtracker creators.
MUSIC 7 - Hacker voice sets and songs for use with Quartet.
MUSIC 9 - Midi Magnet, Chord Master, Keys KMP, TX81z, Satellite (High Res only).
MUSIC 11 - Arpeggiator, Zeppelin, MIDI Beat, Project, Jukebox, MKS-50 - any res.
MUSIC 12 - Henry Cash Sequencer, Composer - any resolution.
MUSIC 13 - Drum Patterns for Cu-Base in standard MIDI format - any resolution.
MUSIC 16 - Yamaha PSS790 Editor, includes loads of sample voices.
MUSIC 22 - Alchemie Junior 2.2 - sequencer with real-time, multitasking etc. High res.
MUSIC 23 - Sound Merlin - good ex-commercial program, Mozarts Dice Waltz - compose music without musical knowledge. High res only.
MUSIC 24 - Octalyser 8-track tracker - STE only, Protracker 2.1, YM Tracker.
MUSIC 25 - DR T's Omega II demo of their amazing new sequencer. 1 Meg+.
MUSIC 26 - PSS Utilities disk, loads of programs including patch editor, librarian etc.
MUSIC 27 - Casio CZ sounds, 32-track sequencer, Kawai K1 editor, MIDI menu.
MUSIC 28 - Editor and Librarian for Yamaha TX1Z, MIDI rat, Switcher, High res only.
MUSIC 29 - Kawai K1 synth sounds.

WORDPROCESSING (ANY RES)

WORD 1 - ST Writer Elite, EDI Text, Zap ST, ST Page, Typist, Desk Accessories.
WORD 2 - Mail Merger, Spell Check, Large Printer Maker, Count, Double, Convert.
WORD 3 - Font Master Deluxe (High res) - a kind of DTP program in German.
WORD 4 - First Word + tools, Grammar checker demo, Spell Binder, Text Filter.
WORD 5 - Calamus Demo, no save function but you can print. High Res only.
WORD 6 - Redacteur 3 demo - contains everything except for the save function.
WORD 8 - DB Writer 1.4 - slick document processor with spell checker & mail merge built in plus all the usual functions. High Res only.

EDUCATION

EDUC 1 - Kid Music, Kid Notes, Kid Piano, Kid Puzzle, Kid Graph, Rebus Writer.
EDUC 2 - Kid Grid 2, Kid Mixup, Kid Publisher, Kid Sketch, Kid Story, Kid ABC.
EDUC 6 - Maths Made Easy, Kid Shapes, Kid Shapes Plus, Race Cards.
EDUC 7 - Michaels Big Adventure - colourful graphics, easy to play. Age 8+.
EDUC 9 - Bodyshop, Computer School 2 & 3, Butterfly in the Park.
EDUC 12 - English Conjugation System, Pure Logic, Phonics, Key Capers.

THE DEATH OF A PRESIDENT

A three disk set investigating the death of John F. Kennedy, thirty years ago. Faced with evidence of maps, photographs, sounds of the gunshots, and peoples testimonies, what conclusion will you come to? EDUC 13-15.

£4.00

EDUC 16 - Franglais 1 & 2 - French Tutors, Me First 2.0, Numbers, Slimming.
EDUC 18 - Spanish Verb Tutor, World at Risk, About the House, Perfect Match.
EDUC 19 - Computer School 4 - tests reflexes, memory, logic, coordination etc.
EDUC 20 - Easter Egg Hunt - pleasant adventure for 7-12 yrs without violence etc.
EDUC 21 - G.C.S.E. Higher Maths Grade Tutor, Franglais 3 - French Tutor.

C.I.A. WORLD FACTBOOK

Four disks crammed with information about the world, covering 247 nations and their populations. An absolute mountain of knowledge useful for research. Also covers weights and measures and contains a complete Chemistry Reference Book. Amazing!! EDUC 23-26.

£5.00

EDUC 22 - G.C.S.E. Chemistry Tutor - all you need to attain grade 'C' or above.
EDUC 27 - Mastertime - brilliant time tutor, covers analogue and digital + Human.
EDUC 31 - 1900's USSR - a very good interactive learning system.

A ROMAN MYSTERY

Another three disk set, this time investigating a murder that occurred during Roman times. Set out in the same style as JFK, this set features pictures, sounds, and 3D games to help you with quest. EDUC 28-30.

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SHOE 10 - Mini Boggle - a good version of the classic game of boggle. £2.95.

PROGRAMMING

LANG 1/2 - Sozobon C Compiler release 2. Includes documentation, shell etc. £3.
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GNU C++ COMPILER 2.1

This five disk set is archived and will need to be unarchived to a hard drive before use. It also requires at least 2.5 meg of mermory. This is intended as a developers version - ie not for novices. LANG 5-9.

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LANG 37 - STOS Software pack 1 - millions (almost!) of routines etc.
LANG 38 - Robert Annets Source Code disk - from the author of Shockwave.
LANG 39 - The complete STOS source code to Pandora's Box.
STOS 7 - The latest issue of STOSSER disk magazine, tutorials, articles, reviews.
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BEGINNERS GUIDE TO STOS BASIC

This is a compete programming course for all ST/STE's consisting of a 618 page, ring bound course manual plus two double sided disks with over 190 programming examples! 26 chapters will take you through step-by-step how to create shoot em up's, art programs, junior educational programs, GCSE maths programs, databases, word processors, music programs, and much, much more. Recommended retail price is £39.95 plus postage but we are doing it for an amazing £29.95 plus postage (£3.00 UK only) and you may also choose THREE FREE DISKS from this advert.

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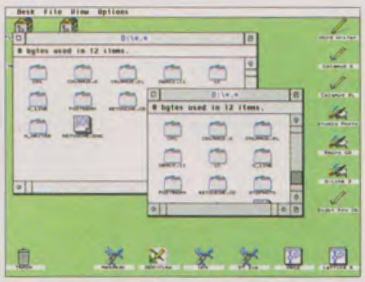
PD ZONE

WINX

FLOPPYSHOP • DISK NO: UTL.4140 • £2.50 • MEMORY: 1MB • FREEWARE • TOS 2.06+ RECOMMENDED • FALCON ENHANCED

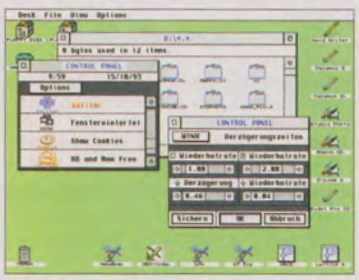
IN BRIEF: *WINX* is a crafty utility that hacks into GEM at boot-up time and improves it in a number of ways. It comes with a companion program called *GEMRAM* and installation is as simple as copying everything to your AUTO folder.

What does it do? Well for a start, window contents are updated as you adjust the sliders and it boosts the number of available windows to forty (as opposed to the usual eight). Not all applications support this feature – Atari's own desktop for one! – but plenty can be persuaded to cooperate. Other niceties include the ability to back windows with a single click on the title bar and realtime sizing.



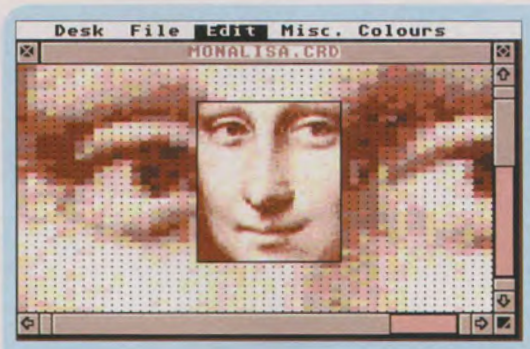
You'll hardly recognise GEM after installing WINX. The scroll bars react instantly to any movement and up to forty windows can be open at once!

The compatibility level is remarkably high and any feature can be disabled through the configuration file if it causes problems on your system. *WINX* is happy to run on any version of TOS from 1.00 onwards, although a lot of the more advanced features require 2.06 or greater.



Any changes to the configuration are carried out through a CPX module. Unlike the rest of the package, this remains in German.

ST REVIEW COMMENT: "*WINX* is one utility you cannot afford to miss. It gobbles up quite a bit of memory – 180Kb to be precise – but the improvements are worth every last byte and once installed you won't be able to live without it!"
★★★★



Patterns can be created from scratch with the Puncher program – and there was me expecting a boxing simulation!

STITCH MATRIX

EMERALD CITY • DISK NO: SN.26 • £2.50 • MEMORY: 0.5MB • SHAREWARE

IN BRIEF: As we all know, there's nothing ST owners enjoy more than sitting down with a cup of tea and a spot of needlework. At least, that's what Chet Walters, author of *Stitch Matrix*, would have us believe!

The function of the program is quite simple – it takes picture files in Degas .PC1 format (be it a title screen from your favourite game or some home-grown artwork) and converts it into a needlework pattern. You can choose to select only part of a picture, or the whole thing, in which case the output will be "tiled" over several sheets of paper. A sidekick program called *Puncher* allows designs to be put together from scratch.

At present, both programs only support Epson-compatible printers and *Stitch Matrix* doesn't even offer a preview mode which is a bit of a pain.

ST REVIEW COMMENT: "It may not appeal to the vast majority of ST owners, but *Stitch Matrix* is nevertheless a well written piece of software. Printer support could do with improving, but otherwise it's just about perfect."
★★★★

It may not be everybody's kettle of fish, but Stitch Matrix remains a reliable way to produce knitting patterns from Degas screenshots.

HUNCHY SOURCE CODE

NEW AGE PDL • DISK NO: POWER.12 • £2.95 • MEMORY: 1MB • LICENCEWARE

IN BRIEF: Writing fast, playable games in *STOS BASIC* is a lot harder than it looks. However it's a knack that the lads at Powerfist have picked up remarkably quickly and you can now learn from their experience with this disk full of source code.

Hunchy is the subject matter and in all you get three versions of the game – each one slightly better than the last. None of the code is that well commented, but at least you are free to use any of the routines in your own programs. The only restriction is that you don't create a game based around the *Hunchy* character itself.

Some Ramsey source code and the usual collection of babbling text files fill the disk out quite nicely – the latter is quite entertaining, although why they can't use a spell checker is beyond me!

ST REVIEW COMMENT: "The *Hunchy Source Code* makes good reading for anyone determined to produce top-quality STOS games. Mind you, three versions of the same code is a bit much, especially when you're paying licenceware prices."
★★★★

The Hunchy Source Code is all very well if you know what you're doing, but the general lack of comments makes it a gamble for beginners.

If you're looking to put together games of this quality, you'll need a few hints – and that's exactly what the Hunchy Source Code provides.

MINIPICS

LAPD • DISK NO: A.78 • £1.50 • MEMORY: 1MB • SHAREWARE • FALCON-COMPATIBLE

IN BRIEF: You know the situation – three dozen disks full of clip art and you simply can't remember which one contains the picture you need. It's a condition known as "desktop publisher's brain" and this Australian utility could provide the ideal solution.

In a nutshell, *Minipics* takes a number of Degas snapshots and squeezes them down to fit a single screen, thus providing a "key" to a whole disk. Up to 64 pictures can be crammed into one screen (16 in low resolution) and the program is perfectly capable of searching out suitable files automatically. You can even print the filenames in a format suitable for glueing to the disk! A pseudo-GEM interface fronts the program up and it's very easy to use.

ST REVIEW COMMENT: "In principle it sounds wonderful, but ST low resolution just can't do justice to 16 different colour schemes and you tend to end up with some very weird looking pictures. If it supported .IMG graphics and allowed you to greyscale low resolution pictures it would be a different story altogether."

Creating minipics is a relatively painless procedure – just select "auto loading", bung a disk in the drive and find a book to read.

DKB TRACE

THE ST CLUB • DISK NO: GRA.180 • £1.45 • MEMORY: 1MB • FREEWARE • FALCON-COMPATIBLE

IN BRIEF: After a brief lull, raytracing appears to be back in fashion. Packages like *InShape* are pointing the way forward on the Falcon, and *DKB* can provide exactly the same effects on a bog-standard ST. The catch is the interface – yes, just like *Persistence of Vision*, there isn't one! Instead you're expected to enter every shape into a "script" file and then run the whole thing through the supplied .TTP program.

The tracer is happy to run under MultiTOS, meaning you can continue working while it does the business in the background.

The interface isn't the only problem either – there's also the documentation to contend with. *DKB* was originally written for the Amiga and PC, so you'll find that most of the instructions are quite confusing when you're using an ST. And any ST-specific information is in French! As is the case with many a raytracer, it doesn't set the world on fire in terms of speed. Any half decent scene will take a day to render, but the results are out of this world!

ST REVIEW COMMENT: "*DKB* is a very powerful raytracer, but it's difficult to recommend it over *POV*, which has a much bigger user base on the ST. It is nice to see a program that behaves well under *MultiTOS*."

DKB Trace fares quite well in the speed stakes – this scene took just under three hours to render on a Falcon with maths co-processor.

TOP TEN UTILITIES

1 WINX • FLOPPYSHOP • DISK NO: UTL.4140 • £2.50 • MEMORY: 1MB • FREEWARE • TOS 2.06+ RECOMMENDED • FALCON ENHANCED
Push GEM to its limits with this superb utility from Germany. Instant response scroll bars, realtime sizing, background adjustments – it does them all and even manages to throw in a few bug-fixes into the bargain! The instructions are a little bit cryptic, but once installed there's no looking back.

2 BACKWARD II • GOODMAN INTERNATIONAL • DISK NO: GF.40 • £3.25 • MEMORY: 4MB • SHAREWARE • FALCON ONLY
A very useful ST emulator which improves Falcon compatibility no end. It's most effective on games software and the authors claim 75% of ST games run without problems – a trifle optimistic in my experience. Up to twenty presets can be programmed into an on-screen library, so you can run your favourite games instantly.

3 EPS TO CVG • THE ST CLUB • DISK NO: DMG.37 • £1.45 • MEMORY: 1MB • SHAREWARE • FALCON-COMPATIBLE
The ideal way to use Macintosh EPS (Encapsulated PostScript) files on the ST. It's completely GEM driven and happily deals with most *Illustrator* files, although you do lose any text in the conversion process. It's pretty effective and the only alternative costs well over £100!

4 STITCH MATRIX • EMERALD CITY • DISK NO: SN.26 • £2.50 • MEMORY: 0.5MB • SHAREWARE
Turn your Degas masterpieces into easy-to-follow patterns with *Stitch Matrix*. The process is fully automated and it will even tile patterns over several sheets of paper if necessary. A separate "puncher" utility allows original designs to be created and both programs are very intuitive.

5 MANDELBROT PLAYTIME • FLOPPYSHOP • DISK NO: ART.3699 • £2.50 • MEMORY: 1MB • SHAREWARE • FALCON ENHANCED
A nice little GEM fractal generator that runs in any screen mode up to 256 colours. Plenty of examples are supplied and it's laughably easy to use. The results aren't superb, but it's very quick and takes full advantage of a maths co-processor if you have one.

6 POWERFAX ST • FLOPPYSHOP • DISK NO: UTL.3097 • £2.50 • MEMORY: 0.5MB • PUBLIC DOMAIN • FALCON-COMPATIBLE
Turn your ST into a fully functioning fax machine with *PowerFax*. Pages can be designed with the built-in text editor and it's even capable of receiving fax messages. Does it work? Who knows! But at this price it's got to be worth a try. You will, of course, need a fax-modem...

7 OPTRONIX MUZAK PLAYER • LAPD • DISK NO: S.145 • £1.50 • MEMORY: 0.5MB • SHAREWARE
A rather special music player that allows you to grab tunes from a wide range of public domain games and demos. Plenty of sample tunes are included, although the documentation doesn't go into much detail about using them from within your own programs.

8 HUNCHY SOURCE CODE • NEW AGE PDL • DISK NO: POWER.12 • £2.95 • MEMORY: 1MB • LICENCEWARE
Fancy trying your hand at STOS games programming? Then don't miss this disk crammed to the brim with top quality listings from Powerfist productions. Unfortunately, none of the techniques used are described in detail, but you are free to rip routines and use them in your own games.

9 DKB TRACE • THE ST CLUB • DISK NO: GRA.180 • £1.45 • MEMORY: 1MB • FREEWARE • FALCON-COMPATIBLE
For realistic three-dimensional scenes, *DKB* comes a very close second to *Persistence Of Vision*. It may have an interface that would give Freddy Krueger nightmares, but if you've got the patience it can do the business.

10 DUNGEON DESIGNER • LAPD • DISK NO: M.136 • £1.50 • MEMORY: 0.5MB • SHAREWARE
The *Dungeon Designer* allows you to construct *Gauntlet*-style maps and save them in NeoChrome format, for use in your own RPGs. The shareware version is limited to black and white designs, but the fiver registration will buy the colour version. It's quite effective but can be a bit temperamental, so handle with care!

L.A.P.D

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HD.13 MORE MUSIC: Includes Winrec, a direct to disk recording system (£1.75).

Our full range of software for the ST/STE is currently undergoing compatibility testing for the Falcon. If you are considering any title from our ST range contact us and we'll let you know if it's compatible. (Ask for our FREE Falcon catalogue)

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D.366 BIRDS OF PREY: Intro to the commercial game that never made it to the ST (1Mb STE).
D.360 DREAMZONE: Mega-demo from the Wild Boys (2 disks, £3.00).
D.347 COSMIC JAM: Good multi-vector demo from Imagina of Finland D/S.
D.324 CROSSBONES: STE demo (also known as RED SECTOR DEMO)
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D.323 SLAM - HARDCORE DANCEFLOOR II – More house music from the Wild Boys.
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SOLAR GEO

ATARI ST REVIEW BUDGET BUY

GOODMAN INTERNATIONAL • DISK NO: GD.914 • £2.75 • MEMORY: 0.5MB • SHAREWARE • FALCON-COMPATIBLE

IN BRIEF: *Solar Geo* is a multimedia walk through our solar system. Far from being a crusty look at mountains of technical information, it actually involves you in the information it teaches.

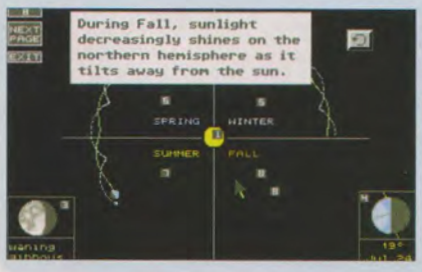
The program opens with an overall look at the Milky Way. From here you can click anywhere on the screen to move deeper into the scenario and hypermedia buttons make it possible to switch quickly between topics. This approach allows you to learn the information in the order you want and it's remarkably similar to the system used by CD-ROM reference books on the PC.

Solar Geo boasts its own built-in test screen which is almost as much fun as the tutorial!

A test section is included to make sure the information has sunk in and this, like the rest of the program, is completely mouse controlled. Once completed, it runs through the incorrect answers to make sure you don't make the same mistake again!

ST REVIEW COMMENT: "If you want to learn the basic facts about our universe, *Solar Geo* is the disk to go for. It's informative, it's fun and the graphics are superb – a real winner."

★★★★★



Animated screens bring the information to life and the quality of graphics is superb when you consider that they're hand drawn.

Starmaps is nothing if not comprehensive – over 9000 named stars are to be found in its gargantuan database!

STARMAPS

GOODMAN INTERNATIONAL • DISK NO: GD.2067 • £5.50 • MEMORY: 1MB • SHAREWARE • HI-RES ONLY • FALCON-COMPATIBLE

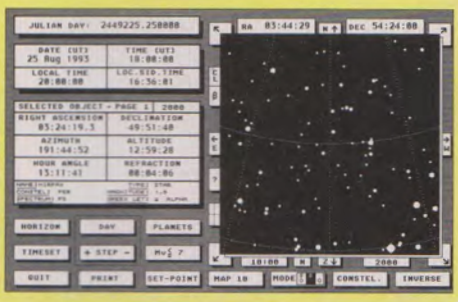
IN BRIEF: If you take astronomy seriously, *Starmaps* is the kiddie to go for. Its database contains over 45,000 stars and information on 9010 of those. The sky can be viewed from virtually any angle, at any date and the program will even link and label the constellations for you!

The package is split into two basic parts – the horizon and the maps screen. The first gives you an overall view of the stars, while the second breaks the sky down into 186 in-depth maps. By clicking on a star you can summon some more detailed information on it – name, constellation, type, magnitude and so on. The data included with each star is quite limited, but it's hardly surprising when you consider the size of the database!

Naturally, this level of power also brings with it some complexity – it's not a very easy program to use, and the lack of documentation doesn't help much. A lot of techie terminology is used throughout the program as well, which could prove troublesome if you're not "in the know".

ST REVIEW COMMENT: "If you think you can cope with the lack of documentation, *Starmaps* comes recommended. It's very powerful and ideal for the slightly more studious ST owner. I'm still none the wiser, but hey – I'm no normal idiot!"

★★★★



The maps screen allows stars to be examined in closer detail. More information is only ever a mouse click away.

SOLAR SYSTEM

GOODMAN INTERNATIONAL • DISK NO: GD.2022 • £2.75 • MEMORY: 0.5MB • SHAREWARE

IN BRIEF: Have you ever wanted to learn more about the planets that make up our part of the Milky Way? In that case, do your best to check out *Solar System*. This well presented program takes a detailed look at all of the planets we know so well and contains data on their size, moons and orbit. The information is presented through a lovely graphical shell and mouse control is the order of the day.

Most entries are accompanied by several high quality pictures and a good deal of well written, informative text. The shareware version is quite limited in that not all of the planets are available, but registration remedies this little problem. The fee? – Twelve pounds to you, guv'nor!

ST REVIEW COMMENT: "*Solar System* is quite informative, but it's also pretty dull. There's none of the animation that makes *Solar Geo* so enjoyable and it doesn't really attempt to teach you the basics. On the other hand, it looks very nice and the registration fee is reasonable."

★★★

Simply select a planet from the main menu and you'll be whisked away to a comprehensive information screen.

The interface is very slick, but Solar System is little more than a glorified text display program.

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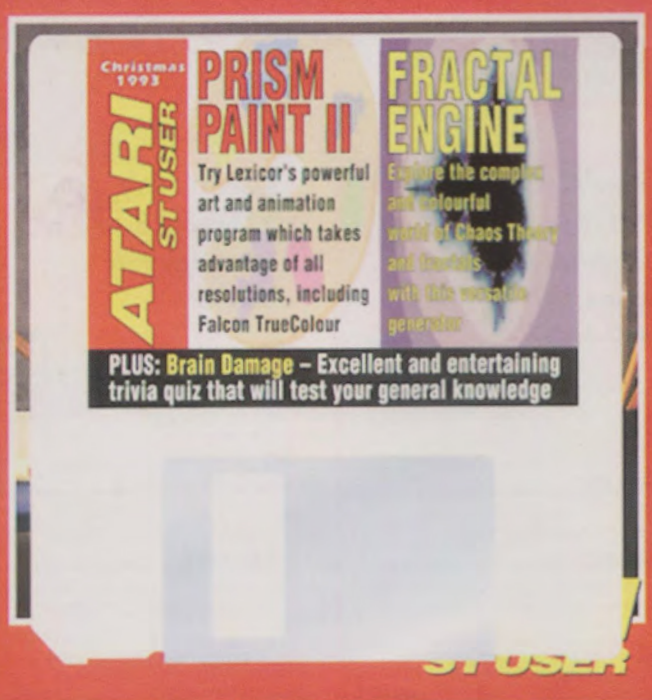

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SHORT CUTS

Another selection of essential products for your ST...

PRODUCT NAME	RATING
VIEWTEK MONITOR	✪✪✪
THE ATARI COMPENDIUM	✪✪✪✪✪
FAMILY ROOTS	✪✪✪
ST SECURE	✪✪✪

SCORING

All products in this section have a rating out of five stars. To give you an idea:

- ✪✪✪✪✪ = ***An absolute essential for your computer...***
- ✪✪✪✪ = ***Great product – well worth investing in!***
- ✪✪✪ = ***Nice item – but you could live without it.***
- ✪✪ = ***Not really – unless it happens to be your cup of tea...***
- ✪ = ***Definite turkey – avoid like the plague!***

PRODUCT:	**VIEWTEK GREYSCALE MONITOR**
CONTACT:	**SILICA SYSTEMS**
TEL:	**081-309 1111**
PRICE:	**£69.99**
RATING:	✪✪✪

VIEWTEK GREYSCALE MONITOR

Review by Tony Kaye

If you are trying to use run a serious application with a colour television, then you'll have noticed that characters are not sharp at the edges. While a monitor is certainly better for this kind of work, funds will often not stretch to over £200 for a colour monitor and a mono monitor is out of the question because you want to use your computer for art as well.

The answer could be the Viewtek Monitor from Silica Systems. This displays low and medium resolutions in shades of grey, rather like a black and white television, but as it is actually a monitor the on-screen letters for your word processor are clearer than using a TV. At under £70, it won't break the bank either.

Shades of grey in medium and low resolution with the Viewtek Monitor...

It must be remembered that this is a greyscale monitor and *not* a monochrome screen, so you still can't use it in high resolution without an emulator. A public domain mono emulator is supplied with the package, but don't expect miracles; programs that need a full megabyte won't run with the emulator as it takes up valuable memory.

This is not an ideal solution for the very serious user, but it does have a place in the home where the other option is a TV. While games are not easy to play without their intended colours, word processing and DTP usage are certainly improved. The ideal situation would be to have a mono monitor for high resolution work and a colour one for art and games, but at the price the Viewtek monitor is worth considering as a cheaper compromise.

THE ATARI COMPENDIUM

Review by Ofir Gal

ATARI ESSENTIAL

Proper documentation for TOS and the Atari hardware has always been somewhat limited. While various books have been available, mostly are now both out of date and out of print! Scott Sanders of SDS has taken upon himself the thankless job of compiling and correcting the various official documents to produce the Atari Compendium.

This is the ultimate programming reference book. At 860 pages, it covers every operating system call, provides a comprehensive memory map and even includes an interface style guide. While much of the information is available to registered developers or via *DocSupport*, the Compendium is far better organised and indexed and while it is not a tutorial, it is *the* comprehensive reference book.

The book is divided into 11 chapters, each dedicated to a specific part of the operating system or hardware. Each function has a concise explanation, assembler bindings, opcode, the TOS version that supports the function, an explanation of its parameters and a cross reference to other related calls. A chapter begins with a detailed discussion of the relevant part of the operating system; for instance, the XBIOS chapter includes a description of the video hardware, the Falcon sound system and DSP, the keyboard processor, the various ports and disk access. *MiNT* is covered in detail in the GEMDOS section and the AES chapter stretches to include *MultiTOS* 1.08 and the forthcoming TOS 5. There is a close look at Speedo as part of the VDI and the *XControl* protocol gets its own chapter – this is the best documentation I have come across.

Another chapter is dedicated to the desktop and especially the GEM.CNF file and its variables. There is even a full list of the MINT.CNF variables and what they do – try finding this information elsewhere! The GEM User Interface Guidelines chapter is based on a similar document published by Atari. At last there seems to be a move towards standardising the GEM interface; this should be carefully studied by all programmers.

The eight appendices include a full list of operating system functions, opcodes and the most comprehensive memory map of the hardware registers to date – a must for all programmers out there. Appendix C covers the native file formats in detail, including GEM, IMG, RSC and FNT files. The obligatory ASCII table and TOS error code list are also included as well as a full list of scan codes.

Finally, there is a look at the Speedo font file format including a full character map. A last minute addition to the book is a description of the Drag and Drop protocol which is now available under *MultiTOS*.

Like any other reference book of this calibre, mistakes and inaccuracies are inevitable. The Compendium has its fair share but, unlike most, the package includes a registration card that ensures updates and corrections will be provided as they become available. Despite the odd error, The Atari Compendium is simply a must for any programmer, commercial or otherwise. Highly recommended.

The Atari Compendium – over 800 pages of comprehensive reference book...

PRODUCT:	**THE ATARI COMPENDIUM**
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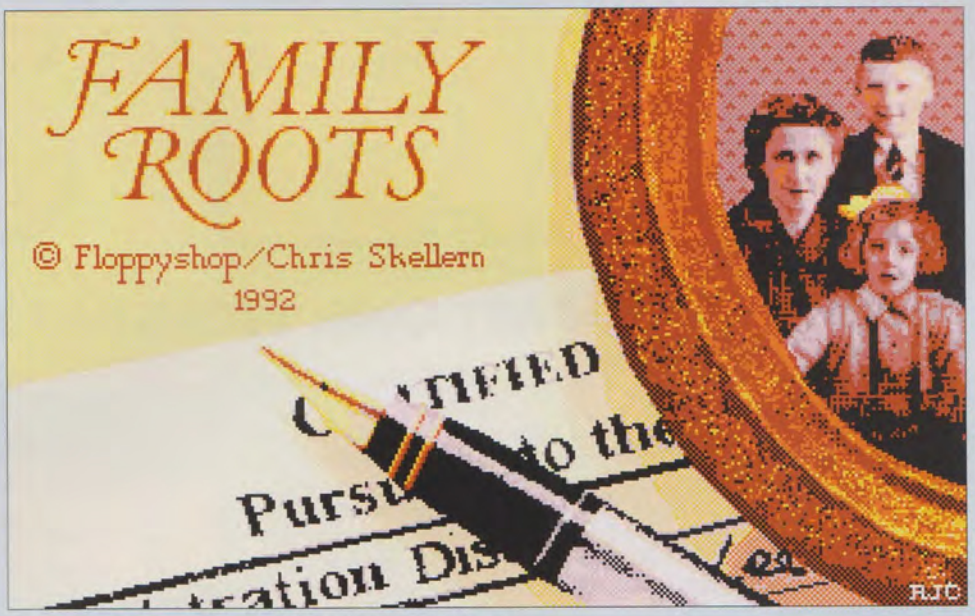
PRICE:	**£39.95**
RATING:	✪✪✪✪✪



Genealogy brought up to date with Family Roots.

FAMILY ROOTS

Review by Jane Plessey

Do you want to trace your bloodline? If you take on such a task, one problem you will be faced with is how to handle the kind of information that a family tree project creates.

Family Roots is a database specifically designed to store and display your family tree in a clear way. The program records all the information you collect and provides a complete record of marriages, children, brothers and sisters, religion and occupation as well as dates and places of birth, baptism and death of the entry.

The program also allows for specific notes to be added to any entry. The example tree supplied with the program traces a family that started with Harry Woodbridge, born in 1795, to his great, great, great, great, great grandchildren born in the 1960s – that's eight generations!

Tracing a family tree could take years and while a tool like *Family Roots* is an invaluable aid, there are a few details that would make the package more user-friendly. At the price there should be a printed manual and not just the instructions supplied on disk.

The screen editing options should also be improved and controls could be clearer. For example, moving around the screen is controlled by clicking on four small buttons; why not create a virtual screen with scrolling controlled by moving the mouse to the edge of the visible area?

An updated version, *Family Roots 2*, is due out in the Spring and an upgrade will be available to existing users. If some of the gripes are ironed out, many of you may be tempted to use this program when you trace your deep past...

PRODUCT:	**FAMILY ROOTS**
CONTACT:	**FLOPPY SHOP**
TEL:	**0224 586208**
PRICE:	**£24.95**
RATING:	✪✪✪

ST SECURE

Review by Tony Kaye

Security on the ST is not usually a priority, but sometimes prying eyes or over-active fingers need to be kept away from a machine. If this concerns you, then *ST Secure* from Ladbroke Computing could be for you.

ST Secure comes in two parts: a small piece of hardware called a "Timelock", which is less than one inch square and fits inside the computer, and a disk with three programs and a password file. Installation involves opening the machine and stripping it down to motherboard level. This is not as daunting as it sounds, but you need to be able to work with a screwdriver and pliers. The board is fully protected against shorting out by being encased in a block of plastic and the four wires are fitted using spring connectors, so no soldering is involved.

With the hardware successfully installed, the computer will boot and offer you the opportunity to enter a password. If you don't enter the correct word within 40 seconds, the Timelock will lock the computer so it can't be used. You can, of course, enter your own password and change it at any time. The software takes a total of just over five kilobytes of disk space including the *PASS_KEY* program, which allows unhindered access to the machine.

If you do need to protect your data or stop others using your ST, then *ST Secure* is a useful addition. Software password access can easily be bypassed using different disks, but *ST Secure* can only be combated by taking the computer apart. For added protection, the wires can be soldered so making it even harder to remove.

ST Secure – one way to keep prying eyes from seeing sensitive information...

PRODUCT:	**ST SECURE**
CONTACT:	**LADBROKE COMPUTING**
TEL:	**0772 203166**
PRICE:	**£9.99**
RATING:	✪✪✪

BEAT THE

PART ONE: WORKING WITH THE DESKTOP

Ever wish you were in complete control of your ST? Better your basics with the first in a new series by Andrew Wright.

The strange thing about the ST is that despite being one of the easiest home computers to use, the vast majority of its users never progress beyond beginner stage – largely because the machine is so easy to use! This might sound a contradiction in terms but it's true. Anyone can put a game disk in the floppy disk drive and switch on the machine, or load a word processor by double clicking on its icon. There's really no need for many people to go a stage further and look at how the ST's operating system really works.

Once you take that step, though, you'll discover a whole new world of serious computing at your fingertips. In this first part of our new series designed to help you get the most from your machine, we'll take the first steps on the road to becoming an expert. Instead of just telling you what to do, we'll be looking at how and why.

JARGON JOGGER

GEM – The Graphics Environment Manager is responsible for everything you see on the screen.
RAM – Random Access Memory is the area into which your ST loads files and programs.
ROM – Read Only Memory is used to store information that only needs to be read, such as the ST's system instructions.
TOS – The Operating System, the set of commands that control every aspect of your ST from loading a file to printing a document.

YOUR ST

Let's start with a very basic description of the ST and STE. I'm going to assume you have one or the other with either a TV or colour monitor. Apart from very early models, all STs have four essential components that we are concerned with – a central processing unit that does all the work, an area of erasable memory called RAM, an area of permanent memory called ROM and an internal floppy disk drive. The ROM area holds the ST's operating system, called TOS, which has a version number that depends on when the machine was built.

Figure 1 – the ST's default desktop.

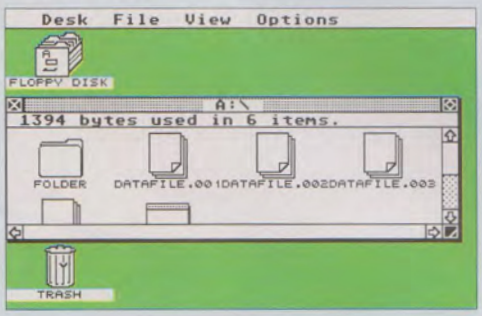


Figure 2 – the default GEM window in icon view.

If you have an STE, you have TOS 1.06 or 1.62 (I'll explain the difference next month) while if you have a plain ST, it will probably be either TOS 1.02 or TOS 1.04. To tell which TOS version you have on an STF or STFM, switch on your machine and move the mouse to the **Desk** menu, select *Desktop Info...* and then click with the mouse. If the Atari symbol is animated in colour in the resulting dialogue, you have TOS 1.04 (also known as "Rainbow TOS"). If not, you probably have TOS 1.02 or even earlier. There are some important differences that will become clearer as we go on.

PUTTING THE BOOT IN

Now, let's try switching on the ST *without* a floppy disk in the drive. The screen goes white and the disk drive grinds away at thin air. After 60 seconds spent staring at a white screen you'll see a bright green screen and three icons labelled **Floppy Disk A**, **Floppy Disk B** and **Trash**. The screen, 320 dots wide and 200 high, is called ST Low Resolution and because it can display 16 colours it tends to be used largely for games and paint programs. This setup (figure 1) is the ST's default desktop and it proves that the ST's operating system is permanently installed in ROM, short for Read-Only Memory.

The drive icons, the ones that look like filing cabinet drawers, represent ways of looking at what is in the disk drive. Unless you have an external floppy, you only have one drive, but that non-existent drive B does have its uses. Try double-clicking on the drive A icon. As there's no disk in the drive, you'll get an appropriate message after the drive has figured out that it's empty. Don't let anyone kid you that computers are intelligent...

Click on **Cancel** to get back to the desktop, double-click on the drive B icon and you will be asked to insert disk B in drive A. If you click on **OK**, without inserting a disk, it will again attempt to read the non-existent disk. What is happening is that the ST is pretending that it has two disk drives; it treats one disk as the disk in drive A and the other as the disk in drive B, even though both disks will be read from the same physical drive. The reason for this might not be immediately obvious but it is important when it comes to copying files from one disk to another.

Next, put a disk – your ST language disk might be a good choice but make sure it's write protected – in the drive and double-click on the drive A icon. A GEM window opens over part of the screen (figure 2). This is your window onto that disk, letting you see exactly what is on it.

You can probably see four large icons and the tops of four more. The information bar along the top of the window will tell you exactly how many items there are in total. If there are more than you can see, try moving the mouse to the **View** menu and selecting *Show as Text*. You can now see a maximum of six file names along with information on the size and date of creation. This is 50% more than when they were displayed as icons and is a much more efficient way of working. Not only can you tell the file size quickly, but the names are much easier to read.

If we could only make the window bigger... Click the mouse pointer on the button in the top right hand corner of the window and watch the window grow to take up the full screen. Now you can see 15 and a bit file names (figure 3). Click the mouse on the button in the bottom right corner and, keeping the mouse button pressed down,

SYSTEM

resize the window by moving the mouse until it looks something like figure 4. Move it to the right, to reveal the drive icons again, by clicking and dragging the grey bar at the top of the window.

Next month we'll look at disk formatting, file copying and making a boot disk.

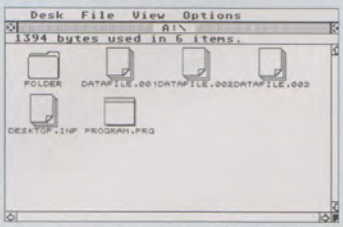


Figure 3 – the top right window button expands it to full screen.

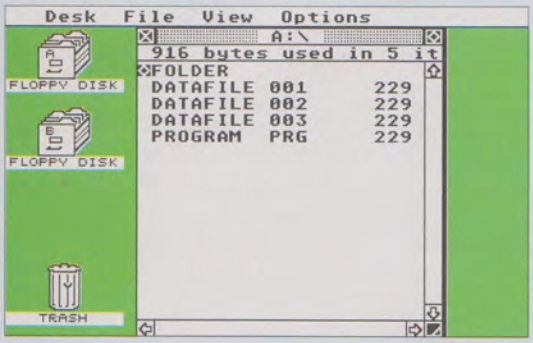
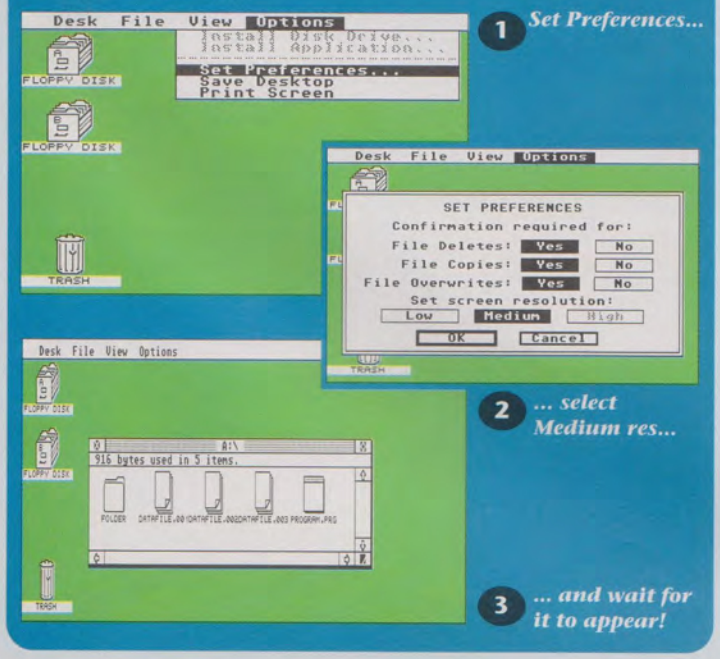


Figure 4 – text view and an adjusted window.

STEP BY STEP

To test your new-found knowledge, restart the ST, again without a disk in the drive, and when the desktop appears, move the mouse pointer to the Options menu, choose Set Preferences..., click on the box marked Medium and then click on OK. You should end up in ST Medium Resolution – more dots (640 by 200) but fewer colours (4).



WHAT'S A FILE?

Just what are those little icons in the windows? Each one represents either a folder or a file. Files are the key to understanding what happens on a disk – they are groups of bytes, the computer equivalent of characters, that represent anything from programs to digitised pictures and letters to your bank manager.

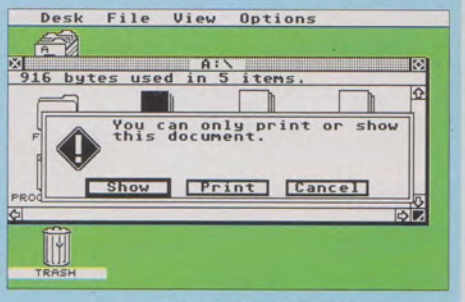
Each file is stored on the disk as a separate object and TOS represents each one on the disk as an icon or a file name depending which way you view them. If the file is executable, in other words if it is a program, it has a slightly different icon to the data files and folders.

What the icons mean...

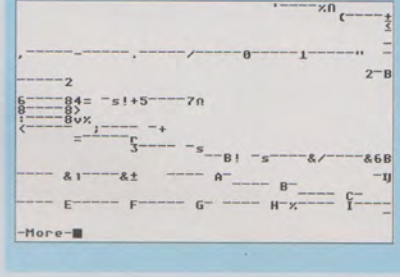
If you try to open an icon, either by selecting it with the mouse and then choosing *Open* from the **File** menu or by double-clicking, one of three things can happen. If the icon represents a folder, the window's contents will change to reveal the files inside that folder (there may even be folders inside folders inside folders!).

If it happens to be a program it will be read from the disk (leaving the original on the disk) and copied into memory where it will be run as a set of instructions. For example, if it is a word processor it will display a nice clear screen and await your own instructions as to what to type into it. If the icon is purely a data file, TOS will ask whether you want to **Show** it, **Print** it or **Cancel**. If you select Show or Print, your ST will copy it from the disk to the screen or printer. You may get what seems like garbage but it is actually binary data that the computer uses internally and is doing its best to represent it on screen. On the other hand, if it is a text file, you may actually be able to read it. If you happen to have garbage all over your screen now, hit the <Undo> key to get back to the desktop. If that doesn't work, you probably have TOS 1.02 or earlier – press the <Control> and <C> keys simultaneously instead.

Whatever happens, it's important to remember that you aren't actually altering the file in any way – it is still on the disk just as it was. You have simply made a copy of it in the ST's memory which is then discarded when the file has been displayed or the program exited.



The choice is yours...



The result of trying to display a binary file.

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This month Joe Connor explores the advantages of using EasyBase as a Desk Accessory, explains the report and calculation tools and gets his hands dirty with file conversions...

MAKING THE MOST OF EASYBASE

To load *EasyBase* as an accessory, rename *EASYBASE.PRG* to *EASYBASE.ACC* and move both this and *CONFIG.PRG* to the root directory of your boot disk or partition. Run *CONFIG.PRG* to set the size of your database. At least 1Mb of memory is necessary to set up a working configuration.

AN ACCESSORY WITH THE FACTS...

Running *EasyBase* as a desk accessory offers two significant advantages: access to your database from inside other applications and export of your data to the application that called *EasyBase*.

Here's an example. Run your favourite word processor – Compo's *Write ON*, given away to *ST Review* readers with Issue 13, is a good choice as it is easy to use and supports the fast XAcc protocol for data export.

Suppose you are considering the purchase of a Falcon. Using the *CONTACTS.EB* database from last month's cover disk, it's easy to select the vendors listing "Hardware" among their services and send them a standard letter.

Call *EasyBase* from the accessory drop-down menu and set the **F3 Report** icon to report using the XAcc or keyboard options. If the XAcc option is greyed out it means your word processor doesn't support the protocol. As this is not crucial, simply select the keyboard option instead. In both cases the icon changes to display a keyboard.

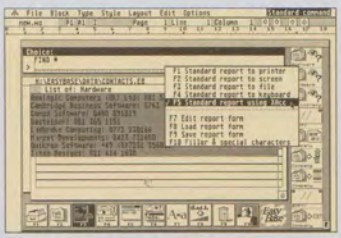


Figure 1: Write ON importing data directly from EasyBase.

Load *CONTACTS.EB*. Enter "hardware" in the command line and export the eight Companies shown in the List window by dragging them onto the **F3 Report** icon (figure 1). Exit *EasyBase* and lick some stamps while *EasyBase* automagically types your letters into your word processor!

For regular tasks it's well worth building a library of Report forms. These can be created using *EasyBase*'s own editor (which we'll cover next month) or any word processor. You could design a form letter in *1st Word Plus*, load it into *EasyBase* using the F8 Load Report Form option from the **F3 Report**'s pop-up menu and include data from *EasyBase* as desired (figure 2). A simple form containing just the name and address fields can even be used to print out the address labels.

Figure 2: A 1st Word Plus document imported into EasyBase to generate a Mail merge report form.

If you decide to run *EasyBase* in accessory mode, don't forget that *EasyBase* retains your database in memory even when the screen is closed. If the computer is turned off, or crashes, data will be lost! Back up

PAINLESS CONVERSION

As most databases use their own formats it can be a tough job converting data files between applications. *EasyBase*, however, is particularly flexible because its internal format is integrated seamlessly with the ASCII text format used by the editor. Conversion of other database files into *EasyBase* is handled by *OMNI_IMP.PRG* so let's use it to convert the *TYPE2.DAT* demo file from last month's cover disk.

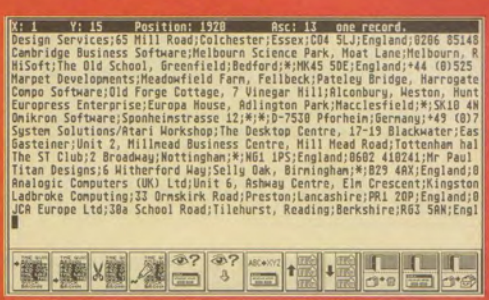
Omni-Import (*OMNI_IMP.PRG*) is capable of converting a wide range of database files but this flexibility comes at a price. You have to take a share of the hard work and figure out the format of your "target" file. To assist you in this task study the on-line help in Omni-Import (*OMNI_IMP.DOC*) or better still print out the help file and read it.

One of the easiest methods to establish the format of a data file is to load it into the editor and take a look. Use the F7 Append Text As Database option from the **F1 database** pop-up menu. Figure 3 shows *TYPE2.DAT* loaded – as the text is readable, Omni-Import should be able to convert it but if you see gibberish at this point you'll have to explore alternative export options from the original application.

Examine the data and compare it with the formats detailed in the help file. In our example, each record occupies a single line with a semi-colon "separator" between each field. This is a "Type 2" conversion. Make a note of the number of fields by examining the data and invent some field names. The actual names are not crucial because they can easily be edited later if necessary.

To perform the conversion, run Omni-Import, follow the prompts, and you should end up with a screen similar to figure 4 which converts the database into a formatted ASCII text file.

This file can be loaded into *EasyBase* using the F7 Append Text File As Database option from the **F1 Database** pop-up menu. If you notice more than a passing resemblance to the *CONTACTS.EB* database, go straight to the top of the class!



```
X: 1     Y: 15     Position: 1920       Rec: 13   one record.
Design Services;65 Mill Road;Colchester;Essex;CO4 5LJ;England;0206 85148
Cambridge Business Software;Melbourn Science Park, Moat Lane;Melbourn, R
HiSoft;The Old School, Greenfield;Bedford;*;MK45 5DE;England;+44 (0)525
Marpet Developments;Meadowfield Farn, Fellbeck;Pateley Bridge, Harrogate
Compo Software;Old Forge Cottage, 7 Vinegar Hill;Alconbury, Weston, Hunt
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JCA Europe Ltd;30a School Road;Tilehurst, Reading;Berkshire;RG3 5AN;Engl
```

Figure 3: To check the format of database files before importing, load them into the EasyBase editor.

```
Please enter each field name for your imported database.
To finish simply press <RETURN> on an empty line.

    1> Field: Company
    2> Field: Street
    3> Field: Town
    4> Field: County
    5> Field: Postcode
    6> Field: Country
    7> Field: Telephone
    8> Field: Contact
    9> Field: Services
   10> Field:

Are 'surrounding' characters used? (Y/N)N
Enter field seperator : ;
```

Figure 4: Omni-Import in action converting a database file for use in EasyBase.

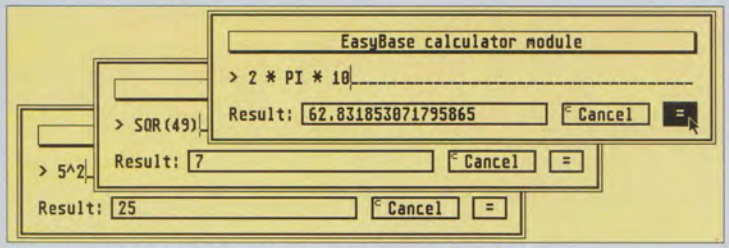

Figure 5: The built-in calculator is only a keypress away.

your data to disk regularly to minimise any damage.

MAKING EASYBASE COUNT

To illustrate some of the calculation options, load in the *STOCK2.EB* demo database file which contains part of an imaginary stock list for a computer vendor.

Calculations are mainly used in *EasyBase* report forms – everything inside "curly" brackets is evaluated by *EasyBase* and the result substituted inside the brackets. The normal +, –, *, and / functions are complemented by every trigonometric, hyperbolic and log function you're likely to need.

A handy Calculator utility is provided in the Extras drop down menu – press the <Help> key at any time to display it (figure 5). It's the ideal place to unearth some of more exotic functions supported by *EasyBase*. A click inside the Result box re-enters

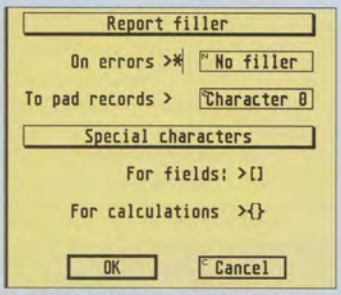

Figure 7: If you don't like the "curly" brackets then change them!

Figure 6: The printer driver can also print titles for the following data – the highlighted line calculates the data for each record.

the result into the command line, making it easy to perform chain calculations.

Using the Stock database, let's generate a simple retail price list. Select the F7 Edit Report Form option from the **F3 Report form** icon to open the editor in Report Form mode and you should find the impressive looking report in figure 6.

The retail price calculation takes place inside the curly brackets in the highlighted line along the bottom of the editor window. The **UnitCost** and **Discount** fields are evaluated first because they are surrounded by "normal" brackets. The final result is reported using the characters specified in the format string "####.##" as a template. If you've taken a dislike to curly brackets or any of the other formatting characters, you can always re-define them (figures 7 and 8) – possible, but not recommended...

The **Description ,50** and **Ref ,4** fields are formatted. The number after the field name defines the overall length of the output string. If the reported string is shorter than the specified number of characters, the string is padded with space characters.

Alternatively, if the reported string is longer than the specified number of characters the string is truncated. In both cases, *EasyBase* internally uses the original string so your data in memory and on disk remains intact. Don't forget that the List window display can also be formatted using the same set of commands (figure 9).

EasyBase supports a formidable array of field formatting and maths functions. The easiest way to obtain a complete reference guide which details most commands with examples is to take advantage of the special offer and obtain the *EasyBase* manual. Next month we'll examine the *EasyBase* editor in more detail.

Figure 8: All the characters assigned special functions in EasyBase are shown in reverse video.

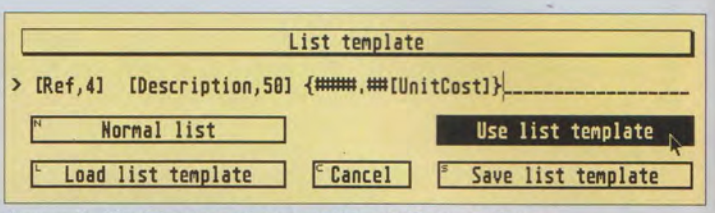

Figure 9: The List template provides full control over the appearance of the records in the List window.

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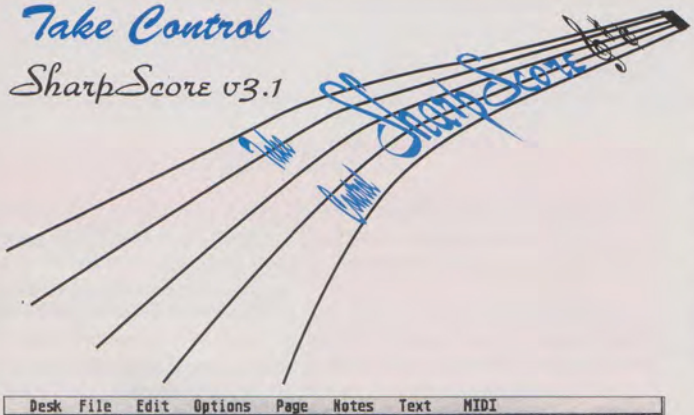

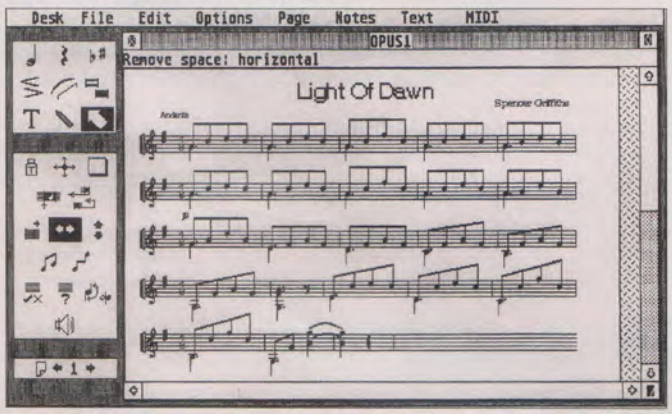

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No matter how well you present a letter, the words have to be spelt correctly. Tony Kaye looks at spell-checking your work...

STRONG WORDS

PART FIVE: WORKING WITH WORDS

Taking the time and trouble to write a letter to someone is all very well, but the effort is wasted if the work is full of spelling mistakes. It's easy to slip and type the wrong character or get a sudden attack of "word blindness" when no matter how long you stare at a word, it looks wrong.

A good spell checker is essential if you use a word processor. Some are equipped with an additional Thesaurus that gives alternative meanings to a word, to save on repetition.

Each word processor has its own method of checking the spelling in your document. Some have full dictionaries while others just check and tell you when a word is wrong. Obviously, the former is the better option, especially if you have a lot of text to verify.

There is nothing worse than having to look words up in a separate dictionary when you could have the information at your fingertips, but you do need a lot of memory to store all the information. *Protext*, for example, will take advantage of a RAMDisk to speed up the operation, whereas *1st Word Plus* loads the whole dictionary into memory.

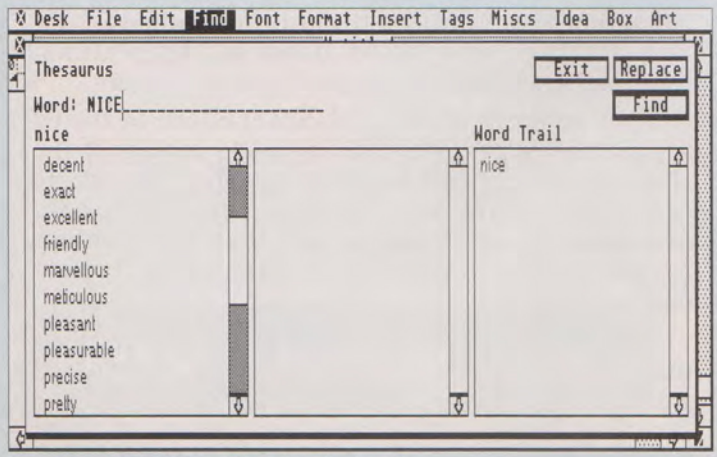
EXTRAS

Protext and *Calligrapher Gold* both have a built-in thesaurus. This is a dictionary that will find alternative words to the one you are using. It is an ideal tool for anyone doing a lot of writing or perhaps a thesis using the same phrases over and over again.

One of the most commonly overused words is "nice". If this is input into *Calligrapher*, it returns no less than 24 replacements!

If your word processor is missing a spelling checker, there is a shareware offering called *Spell* that will correct your mistakes for you. It is available from all good PD libraries and incorporates a program to make your own dictionaries, too.

Another commercial stand-alone program that has disappeared is *the* ST Thesaurus, *K-Roget*, which although expensive was actually



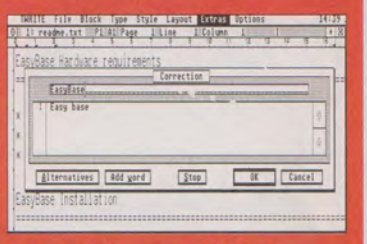
There are 24 alternatives to the word "nice" in Calligrapher's Thesaurus.

JARGON JOGGER

Anagram **– A word or phrase formed by transposing the letters of another word or phrase.**
Case **– Whether a letter is in capital letters or not is called upper and lower case. Some spell checkers can be case-sensitive.**
Dictionary **– A list of words, usually in alphabetical order, used as a reference for spelling checkers.**
On-line Check **– Checking the spelling by giving a warning as you type, as opposed to checking the whole document later.**
Thesaurus **– A dictionary that cross-references words with synonyms (similar words like *near* and *close*) and antonyms (opposing words like *good* and *bad*).**

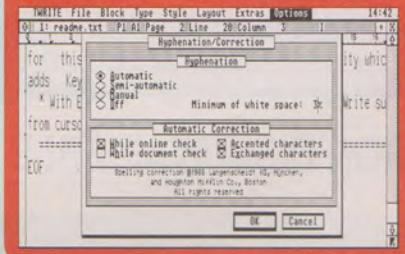
THAT'S WRITE 2

That's Write 2 **offers the choice of a full check or immediate checking as you write. A bleep informs you when a word is not recognised. It may be that you have just typed a name that it doesn't recognise, so you could ignore it, but it could be that a word is incorrectly spelt. The dictionary is not available for immediate checking, but if you perform a full spell check, alternatives can be offered at the click of a button.**



The spelling arm of That's Write 2 offers alternatives to unrecognised words, but only from the Check Spelling option.

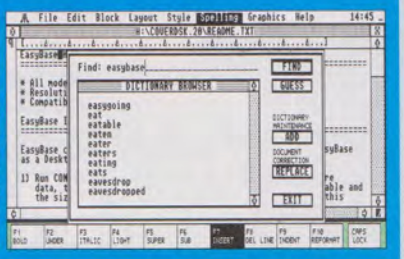
One very nice feature is the automatic feature of correcting reversed letters and capitals. For example, if you type "The english gentleman boarded hte train", the computer will capitalise the word "English" and change "hte" to "the" without consultation. The only drawback is when you need to use abbreviations and odd words, when an intentional wrong word may be "corrected". The feature would have to be turned off for such an example.



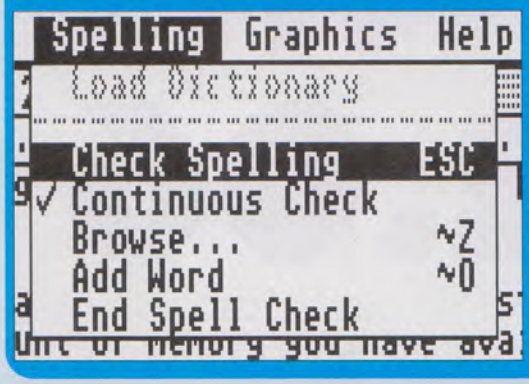
Setting up continuous checking, including exchanged characters.

1ST WORD PLUS

You can set *1st Word Plus* to bleep when it sees a word that it doesn't recognise and check and change it as you go along. Or, as with the others, you can do a complete document check at the end. If you don't recognise the options given when you browse through the dictionary around the word, you can ask the computer to guess what the word should be and how it should be spelt. In most cases, if the word is not too obscure, *1st Word Plus* will get it right, but it can be wise to double check.



Browse shows you the words around the one you're trying to spell so you can choose the right one.



The options available from the menu are fairly limited but good enough for the average user.

licensed from Roget – probably the most famous Thesaurus known. The program disappeared from the market and the copyright is now held by HiSoft.

Perhaps a few calls to them might encourage them to re-release it. By the way, what IS another word for Thesaurus?

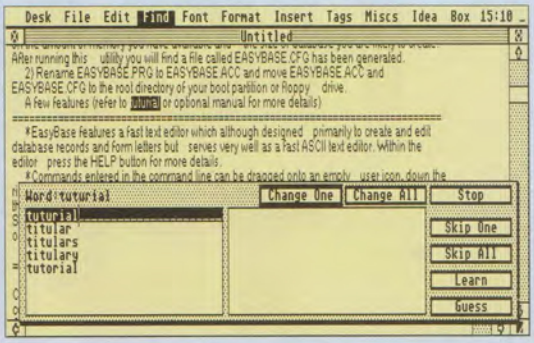
IN PRACTICE

The only way to show the differences between the packages is to go through them all individually and explain how they work and what they are all capable of. Here are four favourites with their advantages and shortcomings.

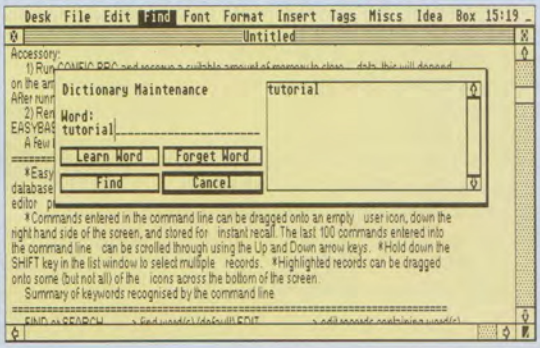
CALLIGRAPHER GOLD

At first glance, Calligrapher appears to have the fewest commands and the least powerful spell checker. This couldn't be further from the truth. There are just three commands available – Check Spelling, Auto Check and Maintain Dict... (apart from the option to unload the dictionary from memory), but each one is very powerful. The continuous check is a little inflexible, but the complete check will not only tell you which word has been spelt incorrectly, but will also highlight it.

Dictionary Maintenance is a useful option as it lets you add frequently used words like your name and address, so it won't be picked out as a word that the computer doesn't recognise. If you find that you've accidentally added an incorrectly spelt word, you can use this option to remove it.



Calligrapher's spell checker not only tells you about the mistake but also shows it to you.



Dictionary maintenance is simple for Calligrapher Gold.

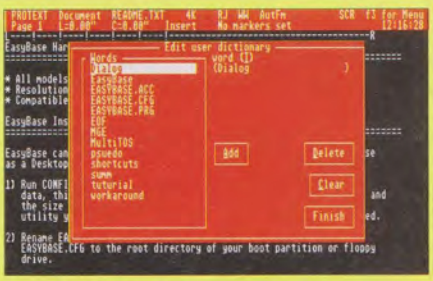
PROTEXT 6

***Protext 6*, the latest from Arnor, has the most comprehensive spell checking functions list of all of the ST word processors. However, there is no on line checking facility, but some will argue that such a function is unnecessary.**

The Lookup Word function lets you check the correct spelling by matching the word you type in with a selection of closely spelt ones from the most likely. For example, type "metor" and you are offered meter, motor, metro, meteor and a dozen others.

There are many options for dictionary maintenance and the dictionary itself is licensed from Collins and Proximity Technology with legal and medical supplements from Merriam-Webster, so you can be sure of accuracy...

The user dictionary (the one that stores extra words like your name and so on) can be edited, so if you accidentally insert a wrongly spelt word, you can remove it quite easily.



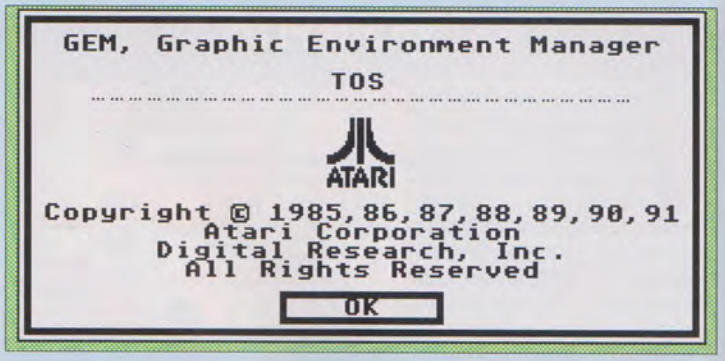
You can edit the user dictionary in Protext and remove any words that you no longer need.

Protext will give as many similar alternatives as it can in an attempt to guess what you were trying to say.

The most comprehensive menu of all. Note the Anagrams option.

Protext 6 includes an excellent thesaurus to save you from repeating the same words over and over again...

Since TOS 2.06 became available last year, it has become one of the most popular and desirable upgrades. Tony Kaye offers you a beginners' guide to using the new operating system...



The information screen that reveals that you are using TOS 2.06.

AT HOME WITH TOS 2.06

Many people are upgrading to TOS 2.06 because of the advantages it has to offer over earlier versions. While there's a decent manual as standard, the familiar feel of the new desktop may result in many of you missing features that can make life easier. If you've invested upwards of £40 on the upgrade, then you want to get the most out of it.

If you're new to TOS 2.06 then this guide is for you. It will help you to get the feel of what the new TOS can do and will explain the differences between this and previous versions. Hopefully it will also help the undecided among you to make up your minds as to whether or not to upgrade...

INSIDE INFO

TOS 2.06 was first seen in the Mega STE – early models had version 2.05 which, like TOS 1.60, had a few bugs and was very quickly updated. The latest versions available are 1.62 in the STE and 1.04 in the STFM (also known as 1.4).

TOS 2.06 is very desirable as it features many improvements that are long overdue, like the ability to drag icons onto the desktop. The new desktop has been available as a ROM (chipset) upgrade for a while, but due to a small incompatibility problem with some leisure software, it wasn't really a viable proposition unless you never played games. The answer came in the form of a switchable upgrade board, which let you revert back to the original operating system if you had any problems. This has made TOS 2.06 more popular than ever. Our 1040 STE in the office has it fitted and it's a joy to use.

WHAT WILL IT DO?

Once TOS 2.06 is installed, the first thing you notice is the Atari logo appearing almost immediately you power-up. This is followed by a memory check and hard disk boot time delay that can be bypassed by pressing the <space bar>. You can place files, folders and programs on the desktop as icons and change these to suit your requirements. Commands are more comprehensive and most have keyboard short cuts, so you can speed up many operations by not having to use the mouse.

New options are available from the menus. **Size to Fit**, for instance, arranges the icons in a window automatically to show as many as possible. Background and window colours are customised using the **Set Colour & Style** option. Instead of double clicking on a drive icon to open the window, <Alt> plus the drive letter will do it for you while <Alt> <1> or <Alt><2> changes the resolution.

Using key combinations along with dragging the mouse in the normal way lets you copy and rename (<Alt>), move (<Control>) or move and rename (<Alt> and <Control>) in one operation.

Programs are launched using single key commands and you can assign a function key to ten different applications so that they can be run without having to open windows or click on desktop icons at all.

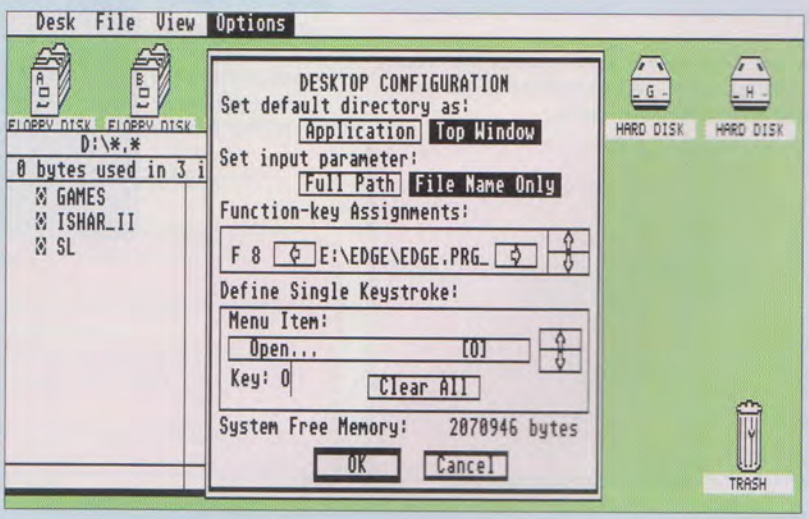
If you have a very early version of TOS, you will be pleased to learn that you can now change the name of a folder from the **Show Information** option. Be careful with this, though, because if a program saves its paths it won't find the files if the folder name is changed.

NO SORT

A new option joins the usual sorting alternatives found under the View menu. **No Sort** shows all of the files in the order they were copied to disk. This is particularly useful for examining your boot disk to see which order the programs are running in. Some AUTO folder programs rely on another program being loaded first.

There are many extra features that work in the background and change the feel of the program without being visible.

Disk handling routines are improved as are formatting and copying options, and the basic keyboard commands can be shown using the <Help> key.

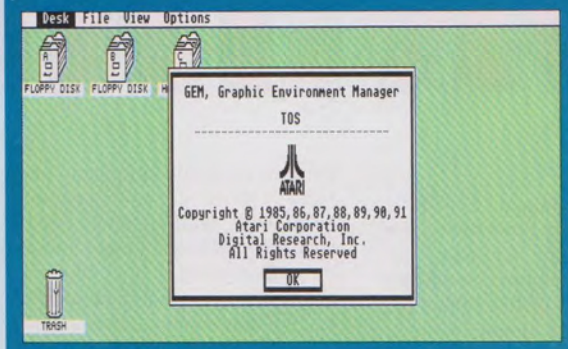


Desktop Configuration shows you which Function keys have been assigned to which programs. These can be changed from the Install Application menu.

The system used for this tutorial is a 1040 STE (4Mb) with the Compo TOS 2.06 upgrade fitted, an Atari 65Mb Megafile hard disk drive and a Philips CM8833 Mk II colour monitor.

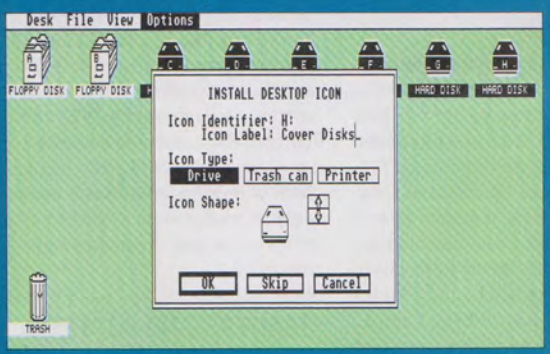
STEP BY STEP

A step by step guide to using the new addition...

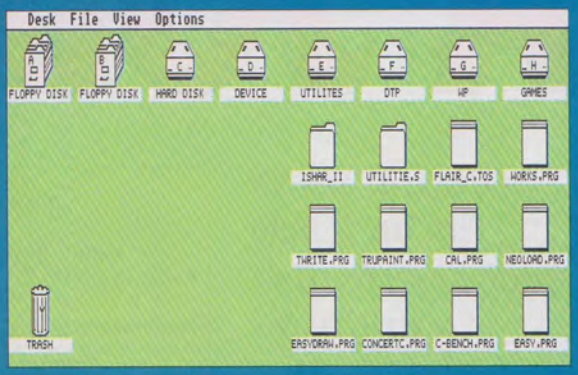


1 *When you first boot with TOS 2.06, it looks very similar to the older versions. The Desktop Info box has a few more dates on it, but that's about all. When you look at the File, View and Options menus, there is a world of difference. See the box headed MENU CHOICES for more details.*

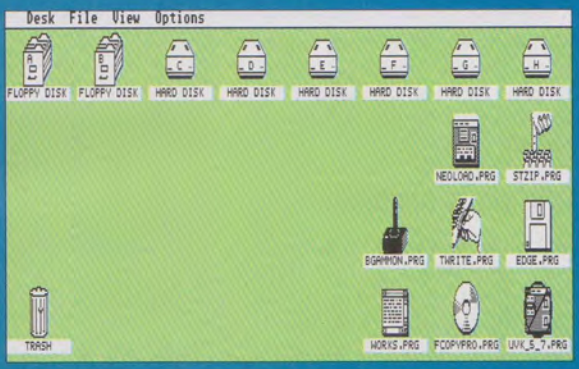
2 *Hard drive owners will be pleased to know that they no longer need to install each partition individually. Under Options, there's a selection called Install Devices that results in this screen when clicked. Of course, you still have to change the icons and names, but it's a lot easier.*



3 *Clicking on Install Desktop Icon after highlighting the hard drive icons (draw a box around them by clicking outside the drives and drag out a "rubber band" area around them) brings up this menu. From here, you can give each drive a new name and change the icon by using the mouse.*

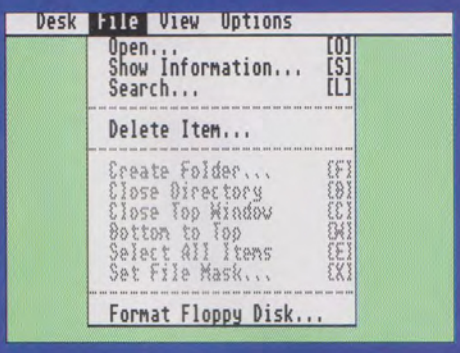


4 *You can now move items onto the desktop and run them from there without having to have a window open. Drag the program file onto the green area and release it. By highlighting it and choosing Install Icon, you can change the picture representing it. Now, instead of having to open a series of folders to run a program, simply double click on the relevant desktop icon.*

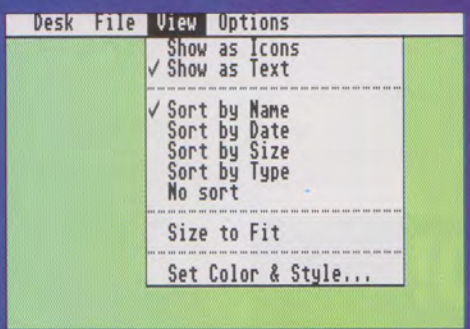


5 *Save the desktop in the normal way. The file is now called NEWDESK.INF, but it does the same job as the old DESKTOP.INF files in the previous TOS versions.*

MENU CHOICES



You can now search for a program by highlighting the drive (or drives), clicking on this option and typing in the name of the file you want. A far more flexible array of window controls are available including Bottom to Top, which rearranges the open windows and brings the first one you opened to the top. Set File Mask... shows files of a particular type – just .PRG files for instance.

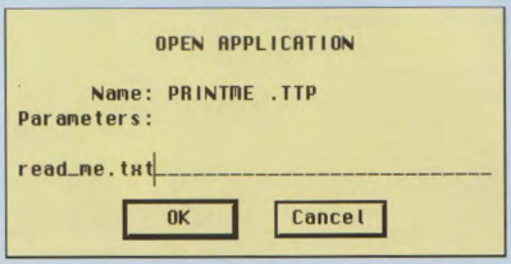


The No Sort option displays all files in the order that they appear on the disk. Very useful for sorting your AUTO folder. Size to fit arranges the icons in a window so that as many as possible fit into the space available and from here, you can set the window and background colours of your desktop.

This has the most changes. Apart from the ability to install different icons, the Install Devices option can search the system and add icons for anything that has been added since booting the computer – very handy if you forgot to switch your second drive on! For the first time, you can create different desktop configurations, rename them and call them up using the Read .INF File option.

A JOB FOR THE

Ofir Gal starts you on a new project – creating a utility for printing files!



Running a TTP application from the desktop displays the Open Application dialogue box from which you can use the command line.

One of the nice things about the ST is the wealth of public domain and shareware programs. You can try out the software, get updates at no extra cost and learn about programming. The only trouble is that you don't get a printed manual, only a "ReadMe" file. This month, we will start writing a small "PrintMe" utility that will not only print files, but also number the pages and print headers and footers if needed.

PRINTING FROM BASIC

Sending text to a printer couldn't be easier. Instead of using *PRINT* which outputs text to the screen, use *LPRINT* to output it to a printer. *LPRINT* is just as flexible as *PRINT*; you can use commas to tab text, and print both strings and numeric values. Every *LPRINT* statement automatically send a line feed and carriage return control character to the printer, moving the printer head to the next line. There is no need for printer drivers or any special startup code. Listing 1 demonstrates how *LPRINT* can be used. The second line sends the printer a special control code known as a *form feed* which is used to eject the page.

```
Listing 1

'sending text to a printer

LPRINT "Printing from BASIC is easy."
LPRINT CHR$(12)                          'eject page
```

PRINTING A FILE

There are various methods of printing a file from BASIC. The simplest, but certainly not the fastest, method is to open the file and then load and print one line at a time. This method is best suited to the "PrintMe" program as there is a chance to count the number of lines and add headers and footers on the fly. It also has the advantage of using very little memory as you only store one line at a time in RAM. A simple example of this is shown in listing 2.

```
Listing 2

'printing a file


INPUT "Enter file name";fi$

OPEN fi$ FOR INPUT AS #1
WHILE NOT EOF(1)
  LINE INPUT #1,a$
  LPRINT a$
WEND
CLOSE #1
```

The program asks for a file name, opens the file, then reads a line into the variable *a$* and immediately prints it. This is repeated until the end of the file is reached at which point the file is closed and the program ends.

USING COMMAND LINES

TOS provides a way for you to pass parameters to a program. If the program file has the extension TTP, double-clicking on it opens a small dialogue box where you can enter a command. Many archive programs, such as *STZIP* use this system. Since TOS 2 and the introduction of "NewDesk", parameters can be passed to a program by dragging and dropping files onto the program file or icon. In that case, the name of the "dropped" file is passed as a parameter to the program. Many replacement desktops such as *NeoDesk* or *TeraDesk* also have this feature. Program parameters can also be passed using a shell or a command line interpreter like *NeoDesk CLI*. But how does our program know that a file has been dropped onto it?

The answer is the *COMMAND$* function which returns the command line of a program. Listing 3 shows how this can be incorporated into the program in a way that gives you a choice between passing a command line or typing in the file name while the program is running. The program also has a few checks to ensure that the file name is valid and that the file indeed exists.

The listing demonstrates rather well how easy it is to implement command line input in a program. When you *Run* the program, the BASIC editor prompts you for a command line just as TOS would if the program were run from the desktop. Compiling the code to disk automatically creates a TTP program. To conserve on ink and paper, you may replace the *LPRINT* statement with a regular *PRINT* which diverts output to the screen instead of the printer while working on the program.

HEADERS AND FOOTERS

So far, the program doesn't do anything special, but it's quite easy to add features like headers and footers.

```
Listing 3

'printing a file using a command line

fi$=COMMAND$                          'get command line

IF fi$="" THEN                        'if no command then ask
                                      'for one
  INPUT "Enter file name";fi$
END IF

IF fi$="" THEN SYSTEM                 'if still no command
                                      'then stop
IF FEXISTS(fi$)=0 THEN SYSTEM         'if it doesn't exist
                                      'then stop

OPEN fi$ FOR INPUT AS #1
WHILE NOT EOF(1)
  LINE INPUT #1,a$
  LPRINT a$
WEND
CLOSE #1

SYSTEM
```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PRINTERS!

```
Listing 4

'printing a footer

OPEN fi$ FOR INPUT AS #1
WHILE NOT EOF(1)
   LINE INPUT #1,a$
   LPRINT a$
   INCR i                        'increment the line counter
   IF i=65 THEN                  'one line to go so
     LPRINT fi$                  'print file name
     LPRINT CHR$(10)             'form feed
     i=0                         'reset counter to zero
   END IF
WEND
IF i<65 AND i>0 THEN             'if it's the middle of a page
   FOR j=i TO 65
     LPRINT
   NEXT j
   LPRINT fi$                    'print file name
   LPRINT CHR$(10)               'form feed
END IF
CLOSE #1
```

Let's try a simple case, where the footer is simply the file name. This is already "known" inside the program as *fi$* so there should be no problem printing it. The only factor to consider is the number of lines your printer can print per page. Continuous listing paper gives 66 lines while A4 offers 70 lines per sheet of paper. This is a tricky area, since some printers have various DIP switches that let you set top and bottom margins, so you will just have to experiment to find the best value...

The program needs to count the number of lines it prints and whenever it reaches line 66, print the file name before printing the next page. It would also be useful to eject the page after printing the footer. The relevant portion of code is shown in listing 4.

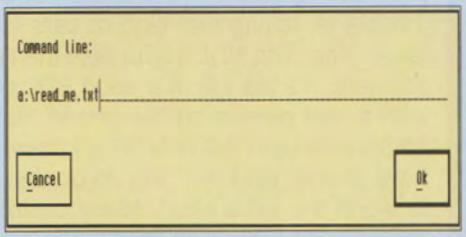
The curious bit of code at the end of the *WHILE...WEND* loop is designed for the likely case that the file ends in the middle of a page. If this happens, the program advances the paper to line 66, prints the footer and ejects the last page.

It's equally simple to add page numbers to the footer as counting the footers is all that is necessary. One way of achieving this is shown in listing 5. The variable *page* is converted to a string which makes it easier to format the output. The footer print routine is now in a separate sub program called *footer*. It takes the file name and page number as value parameters, the latter being converted into a string before printing. Note that listing 5 only shows the relevant parts of the program.

As a final touch for this month, we'll add a blank header. Three blank lines at the top of the page improve the look of the printout and are easy to implement. This is shown in listing 6. The counter variable *i* is changed to three after printing the lines.

```
Listing 5

'automatic page numbering

SUB footer(VAL fi$,VAL page)
LPRINT fi$+" -"+STR$(page)
LPRINT CHR$(10)
END SUB

OPEN fi$ FOR INPUT AS #1
WHILE NOT EOF(1)
  LINE INPUT #1,a$
  LPRINT a$
  INCR i
  IF i=65 THEN
        INCR page
        footer fi$,page
        i=0
  END IF
WEND
IF i<65 AND i>0 THEN             'if it's the middle
                                 'of a page
  INCR page
  FOR j=i TO 65
        LPRINT
  NEXT j
  footer fi$,page
END IF
CLOSE #1
```

```
Listing 6

'adding a blank header


OPEN fi$ FOR INPUT AS #1
WHILE NOT EOF(1)
   IF i=0 THEN                   'it's a new page
     LPRINT:LPRINT:LPRINT        'print 3 blank lines
     i=3                         'update the counter
   END IF
   LINE INPUT #1,a$
   LPRINT a$
   INCR i
   IF i=65 THEN
     INCR page
     footer fi$,page
     i=0
   END IF
WEND
IF i<65 AND i>0 THEN
   INCR page
   FOR j=i TO 65
     LPRINT
   NEXT j
   footer fi$,page
END IF
CLOSE #1
```



If your program contains the COMMAND$ function, the compiler automatically displays this box from which you can enter the command line.

NEW COMMANDS

***LPRINT*: The equivalent of *PRINT*. Sends text and numeric values to the printer.**
***COMMAND$*: A BASIC function that returns the contents of the command line.**
***EOF[channel]*: This BASIC function returns true when the end of a file on the specified channel is reached.**
***LINE INPUT #channel*: A BASIC statement that reads a line of text from a file into the specified string variable.**

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FINDING FILES

This month sees Jon Ellis continuing to develop his directory listing program...

We parted last issue with an easy task: to write your own version of the ANSI library function *strcat()*. You'll find one solution to this problem in Listing 1.

Don't worry if your code doesn't look exactly the same as Listing 1. One of C's features is the number of different ways that the same code can be written. If abused, this can result in programs that are almost unreadable to others. For this reason, some critics have labelled C as a "write-only language"! However, with a little care, it is perfectly possible to write C programs that are just as easy to understand as those in any other language.

BACK TO THE MAIN PLOT

In the last tutorial we were considering some of the new features in our directory listing program, *DIRLIST.C*. We covered the program's use of strings and pointers, but left some of the other aspects for this column.

Two of these can be disposed of quickly. Look at Listing 2, which is a fragment of the DIRLIST program in the Tutorial folder on the cover disk. The line

```
if (findfirst(work,&dir,0x10) == 0)
```

shows how to specify a number in hexadecimal (base 16). In some dialects of BASIC, this would be done by prefixing the number with "&H". To do this in C, the hex digits are prefixed by "0x". In the example above, 0x10 is interpreted as 16, which is the code required by the *findfirst()* function to enable searching for folder names.

Secondly, the line

```
if (dir.attrib & 0x10)
/* If file found is a folder... */
```

uses the "&" symbol in a way we have not seen before. This is the *bitwise-AND* operator. It combines two integers, one bit at a time according to the normal AND truth-table (see figure 1). In this instance, it is being used to test if the file located in the search has the folder attribute bit set (more details on this can be found in a GEMDOS reference manual). If so, the result of the expression inside the brackets will be non-zero, and the "if" test will succeed. Don't confuse the *bitwise-AND* with the *address-of* operator. They look the same, but the latter only has one operand.

The *get_dirs()* function is rather unusual in that it calls itself in order to do its work. When it finds a folder using *findfirst()* or *findnext()*, the first thing it does is to look to see if that folder contains other folders. To do this, the path of the first folder is used as the input for another execution of the *get_dirs()* function. The process is repeated until the newly-found folder contains no sub-folders.

Listing 1

```
/*
** One possible emulation of the library function strcat().
** The function takes two arguments (inputs). The second argument
** is a pointer to a string which will be appended to the string
** addressed by the first pointer. No checks are made on the size
** of the resulting string. The function returns a pointer to the
** start of the composite string (same as the first argument).
*/

char *my_strcat(dest,src)

char *dest, *src;

{
  char *end;

  end = dest + strlen(dest);
  strcpy(end,src);
  return(dest);
}
```

Listing 2

```
/*
** Function to recursively search a path, listing out all
** the folders found. The argument is a pointer to the path
** to be searched, which should not end in a slash. There
** are no return values.
**
** Usage:  get_dirs(search_path);
**
**                void get_dirs(char *);
*/


void get_dirs(root)


char *root;

{
  char work[256];                          /* Working copy of pathname */
  char *s;                                 /* Used as pointer within working path */
  struct dta dir;                          /* Structure for searching folders */

  strcpy(work,root);                       /* Copy input path to working area */
  s = work + strlen(work);                 /* Point to null at end of string */
  strcat(work,"\\*.*");                    /* Add on search mask to path */
  if (findfirst(work,&dir,0x10) == 0)
    {
    do
      {
      if (dir.attrib & 0x10)               /* If file found is a folder... */
        {
        if (strcmp(dir.filename,".") != 0 && strcmp(dir.filename,"..") != 0)
          {
          counter++;
          strcpy(s+1,dir.filename);
          printf("Folder: %s\n",work);
          get_dirs(work);
          }
        }
      }
    while (findnext(&dir) == 0);
    }
}
```

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&	0	1
0	0	0
1	0	1

How binary digits combine when using the Bitwise-AND operator.

This is a programming trick known as **recursion**. If you find it difficult to follow, just imagine that there are lots of identical copies of *get_dirs()*, each with a number like *get_dirs1()*, *get_dirs2()* and so on.

When *get_dirs1()* finds a folder, it calls *get_dirs2()* to list the folders within it. Any folders that *get_dirs2()* finds are explored by *get_dirs3()* and so on.

To work in this way, each copy of the function must have its own set of variables to keep track of its progress. C provides this automatically. The variables in *get_dirs()* have a very limited lifespan – they are created anew each time the function is called, and are destroyed when the function returns. What's more, their names are only known to code within the same block, bounded by the "{" and "}" of the function definition. Therefore, as each "copy" of *get_dirs()* is started, it gets its own private set of variables, known only to itself.

For more information on the local and temporary nature of these variables, see the box on Variable and Storage Classes. Most C variables are like this, as it means that functions can be self-contained. You don't need to worry about using the same variable name twice in different functions – the two can't ever be confused by the compiler.

Of course, there are times when functions will need to share variables. There's an example of this in the program too. Although there is nothing odd in the way that the variable *counter* is used by *get_dirs()*, keen-eyed readers may notice that there is something missing.

Unlike other variables in the program, the variable declaration is not inside a function, but is at the beginning of the whole program. *counter* is a global variable, which means that it can be used by any function in a program.

In this case, *get_dirs()* increments its value every time a new folder is found, and *main()* prints out the final value at the end of the program. See the box on Global Variables.

VARIABLES AND STORAGE CLASSES

In C, each variable declaration consists of three parts. You've already met two of these: the name and the variable type. The third element is something called the **storage class**, which controls the life-span of the variable. We've managed to avoid talking about this so far because in many cases an appropriate storage class is assumed by default.

There are four important storage classes: auto, register, static and extern. A storage class is applied to a variable when it is declared, like this:

```
<storage class> <type> <name>;
```

As an example, we'll define a long integer variable called "total" with a storage class of static:

```
static long total;
```

auto

You will hardly ever see the auto keyword in a C listing, even though the vast majority of variables use it as their storage class. All variables declared within a function body are given the auto class unless the programmer explicitly declares them otherwise. Auto variables have three major properties:

- They are local to the function where they are defined. They only exist between the opening curly bracket just above their declarations and the closing curly bracket at the end of the function. They are also private, in that no other function even knows their names.
- Each time a function is called, new copies of its auto variables are generated. When the function is exited, all of its auto variables cease to exist.
- Following on from above, you cannot rely on an auto variable having any particular value at the start of a function. Unless explicitly given a value in an assignment statement, auto variables contain junk. Many compilers will warn you if you try to use an auto variable without giving it a value first.

Almost all the variables you have met so far have had the auto storage class. Look again at Listing 2. The *get_dirs()* function has three variables: "work", "s" and "dir". In the absence of an explicit storage class specifier, these are auto variables.

register

Variables with the register storage class are almost exactly the same as auto variables. The register keyword indicates to the compiler that the variable is used frequently in the code. The compiler may choose to allocate this variable to one of the microprocessor's working registers, so allowing rapid access. The use of register is only a hint though – the compiler is free to act on it or not. If not, the auto storage class is used.

The compiler will typically only be able to assign a few variables in each function to registers. Modern compilers are quite good at determining which variables should be put in registers, even without a hint, so there may be little to be gained by using this storage class.

Finally, register variables are more restricted than auto variables. Only simple types like characters, ints and pointers can be put into registers. The *address-of* operator, "&", cannot be applied to register variables because registers don't have memory addresses.

static

Sometimes a function needs to store information between the times it is called. Since auto variables disappear as soon as the function ends, these will not do the job.

To make a variable permanent, the static storage class is used. Static variables are guaranteed to start life with a value of 0, and live for the duration of the program. Just like auto variables, they are also private to the function in which they are declared.

WHERE TO NEXT?

In the five tutorials so far, we have looked at many of the basic features of C.

Hopefully, you should now be at ease with C listings, and be starting to get a feel for how C programs are structured.

As you start to write your own programs in C, you will certainly make mistakes.

Next time we'll look at some tips that might help when disaster strikes!

GLOBAL VARIABLES

Regardless of storage class, variables defined within the curly brackets of a function body are confined to that function. This is known as the "scope" of the variable. There are occasions when a variable needs to be accessible to all functions (like the *counter* variable in *DIRLIST.C*). To do this, the variable definition is written outside a function body, usually at the start of a listing.

For now, we will not give global variables an explicit storage class, though we will return to this subject in a later tutorial. Treated in this way, global variables behave like static variables in that they begin life with a value of zero, and live for the duration of the program.

SEPTEMBER ISSUE IS SOLD OUT...

...but we still have some of the cover disks! If you missed out on *Prospero C* and would like a copy of the disk along with the first tutorial, send £2.50 (payable to Europress Enterprise) to: *Prospero C Disk*, ST Review, Europa House, Adlington Park, Macclesfield SK10 4NP.

COMMS COACHING

This month Graeme Rutt carries on his in-depth look at modems by looking at some of the S-Registers.

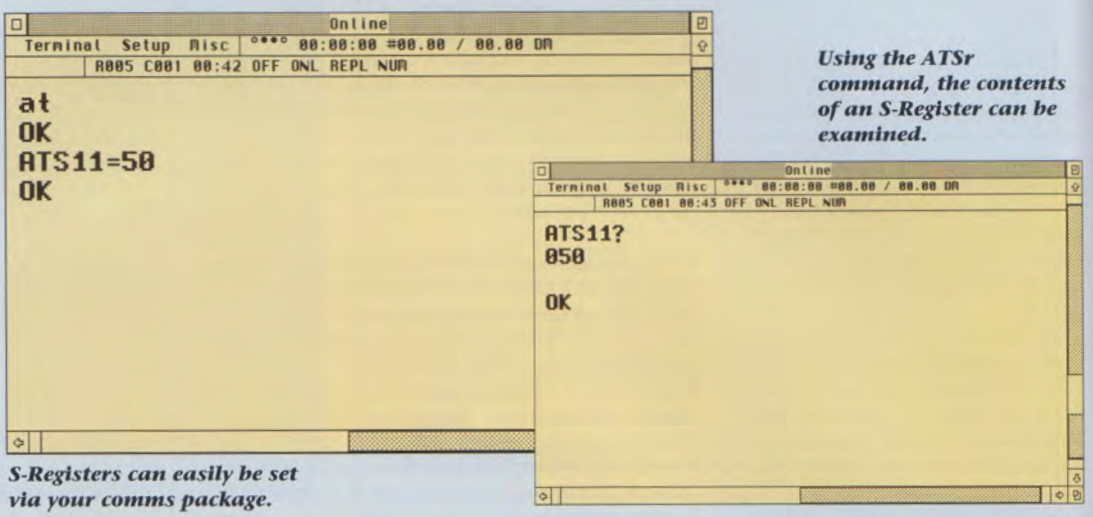
What are S-Registers? A group of numbers in your modem's limited memory which affect the way it acts. They are accessed by typing **ATS=n** (hence the name) and are perhaps best thought of as a lower level of commands than the standard. Many modems only use a subset of the S-Registers – check with your manual to see which of these your modem can use.

START AT THE BEGINNING

First off, let's look at register S1. This is a count register that is compared with the number in S0 which highlights the fact that some S-Registers are used for internal storage and have no direct purpose for the user. For instance, it would make little sense to change this value with an **ATS1=n** command. For your information, setting **ATS0=n** will make your modem auto-answer on the nth ring; n=0 switches off auto-answer.

Another strange bunch, S-Registers 2 – 5, are used to change the ASCII values of the escape sequence character, the carriage return, the line feed and the backspace character, respectively. Any value between 0 and 127 may be used – although why you would want to do so is beyond me! I mention *this* to highlight the fact that many S-Registers are useless to 99% of modem users...

So, with all these warnings ringing in your ears, you may be wondering what use S-Registers are to you. If, like me, you like a sharp, responsive system without too many delays, here are some time-saving S-Registers you might like to use.



S-Registers can easily be set via your comms package.

Using the ATSr command, the contents of an S-Register can be examined.

PERFECT TIMING

There is a time interval between your modem picking up the telephone line and dialling. If you aren't using **ATX2** or **ATX4** (see an earlier column) then you can change this interval with S6. You should find that the minimum two seconds set by **ATS6=2** will be more than adequate for your exchange to send you a dial tone.

Also, try lowering S11 to its lower limit of 50 milliseconds by **ATS=50**. This effects the duration of the number tones on digital exchanges; you should notice a definite speed increase in your dialling. If you're on Mercury you may wish to combine this with S8 which governs the duration of the delay for the , dial modifier. You can lower this down to one second and still make it through to Mercury in time.

Once your call is connected there is yet another time lag as your modem has to decide whether it's listening to a carrier signal or not. S9 controls this interval and is measured in tenths of a second. A fairly normal default time is 0.6 seconds, set by **ATS9=6**, but you might like to lower this a little too. Be careful though – if the value is too low you might find that your modem begins to respond to an engaged tone as if it were a carrier!

Use these registers wisely and you'll find that dialling becomes a breeze. Of course, not everything in a modem has to be quick and there are at least two registers that you might like to use to slow things down a little. S10 governs the amount of time between losing a remote carrier and your modem hanging up. If you have a poor quality line then you might like to increase this figure a little to stop intermittent carrier loss from halting your call. S12, the escape sequence guard time, is the period of non-activity your modem requires before, during and after you type in +++. If too short a time is set for this value, it will be virtually impossible to break into command mode.

ON VIEW

How do you view S-Registers? By using the **AT&V** command as usual, but this provides such a morass of information that another method is provided. Simply type in **ATSr**, where r is the number of the register, and the value in that register is returned. Be aware that some S-Registers employ a bitmap coding, so you might have to get that programmer's calculator out!

Finally this month, a further word of warning. Some S-Register settings will *always* be lost whenever your modem is switched off. If this is so, it's time to fall back to the alternative methods available to the wily comms user – set up your terminal program's *init modem* string to send the changes whenever it boots up or dials a number.

That's it from me this month – see you on-line! If you have any problems, you can get in touch with me by E-mailing **sabbath@cix.compulink.co.uk**.

The TKR modem's AT&V info – notice the numerical jumps in the S-registers denoting those that are missing.

INSIDE INFO

Escape Sequence **– the Hayes method of switching your modem into command state when on-line. The normal sequence is to type +++ into your terminal package but the character can be changed using S-Register 2.**

Digital Exchanges **– the new breed of exchanges that BT is slowly building across the country. They offer tone dialling, star services (call waiting, diverted calls and so on) and better quality lines.**

Bitmapped Registers **– a programmer's standard trick to save space, used in situations where a simple yes/no or on/off switch is required. Every bit in the register's byte is a different switch with a setting of 1 or 0 so a byte can hold eight different switches instead of a single number.**

ALL ABOARD!

ST Review continues its series of Atari-specific BBSs. Mark Baines at the helm...

Here we are again, with the second list of ST-specific bulletin boards. Whenever you log on, don't forget to tell the SysOp that *ST Review* sent you...

THE HOLODECK SBBS

INFO: *Dial-in: 0454 317047 (Yate, North Avon)*
Sysop: Dave Meaker
Times: 24 hours
Speeds: Up to 14400 bps with V42bis
NeST 90:106/151
TurboNet 100:1051/3
FidoNet 2:251/43
AtariNet 51:501/151
STPDnet 10:1/4
FishNet 777:100/0
TrekNet 107:1701/22
TechNet 111:440/7

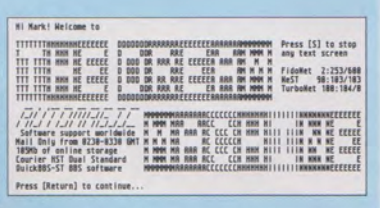
The Holodeck specialises in two areas – programming and *Star Trek*! There is programming support for all C programmers and the *WettWare/QBBS* BBS system software, and there is a strong *Star Trek* patronage for all you Trekkies out there. This includes a separate file area and the connection to the international TrekNet network.

Apart from the four main networks and TrekNet, Holodeck is also connected to STPDnet, a file network dealing with ST PD files, FishNet, which is Falcon related, and TechNet, which is biased towards technical matters. Dave expects to join ByteNet soon. Something for everyone here!

Dave provides a postal download/upload service for large files that would be more costly to obtain by modem. Holodeck is also a test site for *WALU Software* which provides programs for QBBS users, so even sysops ought to pop into Holodeck once in a while...

THE DREAM MACHINE

INFO: *Dial-in: 0222 341713 (Cardiff)*
Sysop: David Thomas
Times: 24 hours
Speeds: Up to 9600 bps (14400 bps HST) with V42bis
NeST 90:103/103
TurboNet 100:104/0
FidoNet 2:442/600

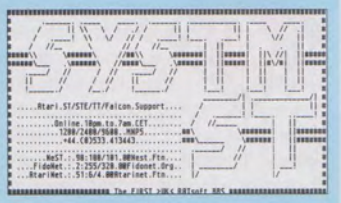


The Dream Machine is a popular board with a good selection of message areas, the popular and networked Space Empire Elite and up-to-date files without downloading restrictions. QWK off-line mail support is available for off-line reader users. Particular care has been taken with the menu system which is clear and easy to understand.

David is a friendly guy who has kept his BBS going since July 1990. He's also an active participant in the message areas.

SYSTEM ST

INFO: *Dial-in: 0533 413443 (Leicester)*
Sysop: Mark Matts
Times: 10pm – 7am
Speeds: 1200 – 9600 bps with MNP5
NeST 90:100/101
FidoNet 2:255/320
AtariNet 51:6/4.0



Mark's specialism is in supporting various other programmers and he is no mean programmer himself. System ST is the official support BBS for *KM-Term* (Kevin Millican), *TeraDesk* (Wout Klaren), *MUG UK* (Mike Mee) and *Hitchhiker* (Stuart Coates). These programmers and new/updated versions of their software can be obtained through dedicated message and file areas. System ST is also the official UK support BBS for RATSoft/ST BBS software where Mark acts as a go-between with UK users and the US, even converting your pounds to dollars for you.

System ST is Atari ST-only with the emphasis on files (1800+ including the latest from US), messages (200+ areas) and support, there being no on-line games. QWK off-line mail support is available via Amail. There is a generous 1:10 upload/download ratio and the first time user gets 20 minutes and 100Kb download limit. Mark is a very supportive SysOp and hopes to go 24 hours and 14400 bps some time in the future.

FOLKESTONE QBBS

INFO: *Dial-in: 0303 249306 (Folkestone)*
Sysop: Robert Darling
Times: 24 hours
Speeds: Up to 14400 bps
NeST 90:106/130
TurboNet 100:1051/6
FidoNet 2:255/375
AtariNet 51:501/100

Robert has made FolkeSTone an excellent BBS for new users with easy to use menus, 30 minutes and 50Kb download on first call and a friendly, approachable SysOp. There is *Jekyll* and QWK off-line mail support and Robert is keen to have users set up as Points.

STARBASE ONE

INFO: *071-733 3992 (London)*
Sysop: Nick Stevens
Times: 24 hours
Speeds: 2400 bps
FidoNet 2:440/407

Starbase One is *the* premier space and astronomy board in the world! It has masses of on-line storage including CD-ROM which contains the biggest collection of astronomy and space graphics files outside of NASA. The extensive file areas include text files on matters ranging from advice on telescope buying to the details of the Gemini missions, all the PD and shareware astronomy programs for various computers, animation, star catalogues – you name it...

Starbase has access to various networks providing up-to-date information direct from NASA, JPL, BAA and so on. If you are interested in space and astronomy this is the place to be!

ASK THE EXPERTS

Another dip into the ST Review mailbag and more problems solved!

I'LL 'B' BACK!

Being a relative novice in the computer world, I would be grateful if you could steer me in the right direction on a couple of points. In the near future I intend to buy a second floppy drive for my one megabyte STE. Could you point me towards a decent model?

My second question is this. I want to buy a DTP program that will be suitable to personalise greetings cards (with the help of some clip art); can you tell me of a good one for my set up that will not break the bank? Thanks to your magazine a text editor is no problem as I have the excellent *Write On!* word processor from Cover Disk 13.

Bill Newby, Stanley, County Durham

When buying an external disk drive, it is better to buy one with its own power supply, rather than one that is powered from the joystick port. Power Computing offer their PC720P drive for £55. If you want extras like virus protection, drive B boot facility and built-in Blitz Turbo copier, then the PC720B is available for £5 more.

The Power Computing PC720P external double sided disk drive – a good choice.

Timeworks 2 is ideal for what you want to do and there is plenty of clip art available in the public domain. Try the program on our cover disks and see page 16 for details of how to order the full package.

Tony Kaye

ACCESSING LATTICE

I am a keen computer programmer and normally use *Lattice C V3.04* which I have had for several years. However, it will not compile desktop accessory programs no matter what I do.

As the distributors, Metacomco, appear to have ceased trading, I wrote to HiSoft who distribute the current version. Unfortunately, they were unwilling or unable to help. I do not feel that I should be forced to purchase the latest version as I am happy with the software in all other respects. Incidentally, *Prospero C* (Cover Disk September 1993) produces working desktop accessories from my code but I prefer the Lattice shell environment and the fact that *Lattice C* produces smaller executable files.

I am fairly sure that the problem is to do with the *ACCSTART.BIN* file and although *Lattice* supplies the source code for this file I do not know how to fix it. Can you help?

Robert McConaghie, Middlesborough, Cleveland

Lattice C v3.04 – there's a name from the past! 1987 to be exact. Without more detail it's impossible to offer a definitive answer to your problem, but here's a few pointers:

• It is definitely possible to program desk accessories under v3.04. I reinstalled the system on my Falcon, and it worked fine with a desk accessory source file. To create accessories you need to use a linker control file like this:

```
INPUT ACCSTART.BIN
INPUT *
LIBRARY CLIB.BIN
LIBRARY GEMLIB.BIN
```

• Asking the linker to include debug information can cause it to crash with two bombs.

• If the desk accessory is large or uses the GEM rsrc_load() call, you might need to adjust the stack size and memory allocation in ACCSTART.BIN. This would need an assembler, I'm afraid. Try embedding the resource data, and avoiding the use of malloc().

• Since Prospero C will make a working accessory out of your source but Lattice C won't, it's possible that there's an implementation-dependency in your code. For example, ints in Prospero are 16 bits wide, but in Lattice they are 32 bits. For GEM programming in Lattice, you will need to use shorts, or the WORD type defined in portab.h. Finally, I would urge you to invest in Lattice C v5. The development environment is far superior to that of version 3, the code generation is excellent, and full support is provided for new features of advanced machines like the Falcon. Call HiSoft on 0525 718181 – they just might be able to offer you an upgrade price to the new v5.60... **Jon Ellis**

IN CONTROL?

Firstly I would like to say what an excellent magazine *ST Review* is (and I'm not just saying that to get my letter printed). After trying the three Cyber programs on your Cover Disks I went and bought *Cyber Studio*, *Cyber Control*, *Cyber Paint* and *Cyber Sculpt*, all of which I find very good. However, the 16 colour palette on my the 2Mb STE is very limiting. I know *Xenomorph* can use .3D2 files but would it give me extra colours to play with and would I still be able to use *Cyber Control* to create animation with *Xenomorph*?

If not, are there any other compatible programs that would allow me to do this? I would be grateful if you could give me some advice on this matter.

Keep up the good work with the magazine!

M H Thompson, Sheerness, Kent

Xenomorph is capable of rendering in True Colour, but the STE can only display 16 colours. However, if you save your work as a .SPC Spectrum 512 file, you can view it in 512 colours.

The program costs £79 and is fully compatible with .3D2 files, but you may wish to consider Xenomorph 2 which sells for £99 and has many extra features including MultiTOS compatibility and a new GEM-based interface. Chronos 3D is another program that will import .3D2 files and is also available from 16/32 Systems. As they are only down the road from you in Strood, why not go down there for a demonstration? Give them a ring on 0634 710788. **Tony Kaye.**

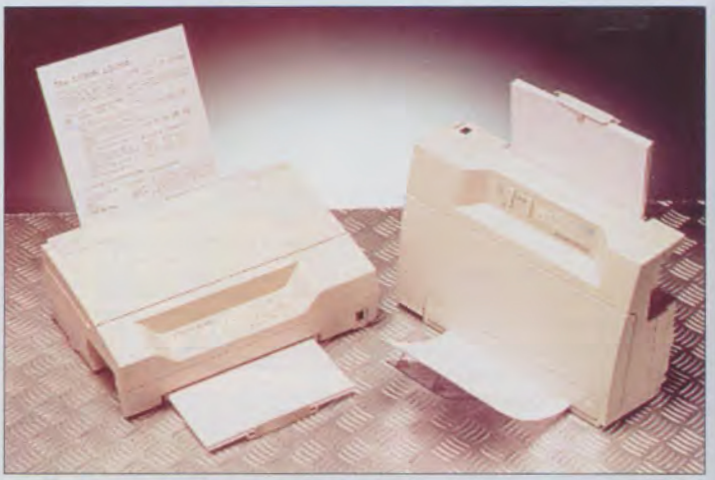
DRIVING PRINT

I have recently purchased an Epson LQ100 24-pin dot matrix printer with a range of powerful features including 360 x 360 dpi resolution, 5 LQ fonts (2 draft) and Epson ESC/P2. I am using it with a 1Mb STFM. Unfortunately, I have not yet been able to find a printer driver amongst my software to get the most out of the printer.

I have tried printing various file formats using various drivers. The drivers with *Degas Elite* v1.0 (non specific Epson driver), *Timeworks DTP v2.0* (non-specific Epson 24-pin) and *Protext v5.5* (Epson LQ-2500 driver) all prove to be inadequate in driving the printer to its full potential, giving me typically 180 dpi graphics and in some cases not giving me the full range of fonts.

I have used a *Calamus* demo with the non-specific Epson LQ driver provided and it allows adjustment to 360 x 360 dpi and yields excellent (if somewhat slow due to lack of memory) results. How could I utilise the *Calamus* driver with *Timeworks*, *Degas*, *Protext* and the desktop, if at all? Better still, where can I obtain a set of drivers specifically for the LQ100 or similar Epson ESC/P2 24-pin printers to drive my printer at its full potential.

Martyn J Atkins, Torpoint, Cornwall

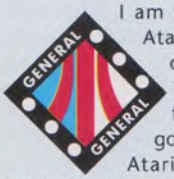


Correct driving needed for the LQ100?

Printer drivers for the ST are specific to the packages they come with so you can't use the Calamus driver for the other programs. Try using the NEC P6 driver for Timeworks and import your Degas picture files into it before printing as the latter has been unsupported for quite a while now and the program effectively performs a screen dump. There is a PD disk of nine and 24-pin printer utilities available from Goodmans International (disk number GD 1821) which has driver creators for Degas along with a host of other PD printer utilities.

Protext 6 has drivers for all printers currently available and definitely has one for the LQ100.
Tony Kaye

EMULATING THE PAST



I am very new to the Atari ST, being the owner of an STE 1040 (upgraded from 520). Having gone over from the Atari 130XE with a 1050 disk drive I have several boxes of 5.25 inch floppy disks, all my children's favourite arcade games which I have kept (my younger daughter refuses to let go of the 130XE and 1050 disk drive).

Is there any way that I can connect or run the 130XE and 1050 disk drive through the 1040 STE, so that we can still play the 5.25 inch floppy games, and if so where can I purchase the necessary leads or whatever I need to connect them? If by chance I can't do this then do excuse my ignorance, but being an old wrinkly and knowing very little about computers in general, I find much of the computer world mind-boggling.

When my kids have gone off to school I jump onto the computer and play their games (being disabled I have a lot of time) and I enjoy the great first class graphics of the STE.

Also can you tell me why does the STE we own have problems with the keyboard? Much of the time since its upgrade the keyboard doesn't respond correctly.

If I press say the letter "C" the letter "F" will appear on the screen etc. This happens with all letters/numbers which make it very difficult when typing.
MJ Powell, Weeley, Essex

There is a PD emulator for the XL/XE computer called the ST Xformer (ST Club disk UTI 51), but connecting the 1050 disk drive is a non-starter as the interfaces are different. The disk also has instructions on how to interface the two computers using the serial ports. Also available from the ST Club is disk number UTI 191 which contains the equivalent of seven 5.25 inch disks of 8-bit software. Contact them on 0602 410241. An emulator could not honestly be recommended as a serious method of imitating an old 130XE, but it could give you a little fun finding out. Not all programs will run, so you have to decide whether it's worth the messing around or just stick with the two separate machines. A lot of the old 8-bit games have been rewritten by like-minded people and are available in the public domain.

The STE keyboard is virtually bomb-proof, so it is unlikely that it is damaged. This points to something else within the machine. The only way to find out is to take it to one of the recognised dealers for repair, but try removing the upgrade to see if it returns to normal first. Give the Atari Workshop a call on 081-693 1919 for a quote.
Tony Kaye

CONNECTING A CD-ROM DRIVE

Our mailbag is varied as you can well imagine. Here are two letters that arrived within a few days of each other concerning connecting a CD-ROM drive to the ST...

LETTER ONE

I am sure it is generally the case that you are unable to answer readers' problems directly but in this case I hope you will be able to give me some assistance personally.

I read your article in the July issue (Open House, page 21) concerning CD-ROMs and after some contemplation decided to take the plunge. I primarily use my ST for DTP and the prospect of getting hold of almost limitless fonts and clip art was more than I could resist.

As recommended in Maurice Collins' article and your column, I purchased an Apple CD300 drive with SCSI terminator and an ICD Link.

It's now about ten days later and I am getting totally frustrated and do not know where else to go. I've tried calling the USA, but after several attempts that has proved equally frustrating. I do not consider myself to be a novice user – I've had home computers for more than ten years and my ST for more than five – and believe that I've exhausted all of the possibilities. I have tried using the Atari MetaDOS drivers with various combinations of CONFIG.SYS settings and whilst the ICD driver reports the presence of the drive ID, and MetaDOS is loaded, neither the main ICD driver nor the file access drivers will install. I've also tried the Atari CDARGEN.BOS and that wouldn't work either.

In all cases I've connected the drive directly to the computer's DMA port. Although I have a Protar hard drive, I thought by not having it connected trouble shooting would be easier. I did have some luck though, by using that drives in-built SCSI interface with the CDARGEN.BOS driver. In that way I could get the drivers to load but when trying to open files I got an alert box telling me to insert a disk even though there was one in the drive already.

The Link that I bought also has a different type of driver set-up to work with *MiNT* (supplied) or *MultiTOS*. That would seem to be even simpler and does appear to install correctly. In this case, double clicking on the drive icon produces a "busy bee" for about two seconds before disappearing without opening a window. Asking for drive info from the desktop doesn't work, but by using *UIS III*, I was told that the drive had zero files, zero bytes used and so on.

Hopefully I'm doing something very stupid, so if you can shed any light on what's wrong (a printout of your CONFIG.SYS file and the SCSI ID you used would be wonderful). I'd be eternally grateful – I can't promise to subscribe, but if you continue to give serious users a fair crack of the whip, I would very seriously consider it!

LETTER TWO

I trust you received my letter of a few days ago asking for help with the problem I had in setting up an Apple CD300 drive to work with my ST computer.

I thought I should write to let you know that I have now succeeded. On my fifth attempt to get through to ICD's technical advice line in the USA, the problem was instantly diagnosed as a problem with the parity being enabled on the drive. He told me that they had this problem with the Apple drive they used and would have told me which jumper should be removed, but apparently one of the other technical personnel who wasn't on duty had taken the drive home with him!

Now I have to say when I bought "The Link" from Power Computing in Bedford, the resident technical guy did mention that most ICD interfaces were sensitive to the parity setting and suggested that I might be better off with the AdSCSI. I dismissed this on the grounds that you had used The Link with relative ease and hadn't mentioned the parity setting. Did you have to change this?

Armed with screwdriver in hand, I attacked the drive. In the end I had to remove the entire mechanism as the internal design is very cramped although I have to say the whole thing exudes quality. It was easy to find the correct jumper since there was a label on the back of the drive unit pointing to it. Once the wire, a purple one on my drive, had been removed and the unit was reassembled the software installed correctly and I was home and dry. I have tested both the MetaDOS system and the new XFS software for *MultiTOS/MiNT*. The latter system read one disk which the old system would not, but is considerably slower. I have also been able to get music CDs to play using the shareware utility by Brian J. Grier (obtained from Floppyshop on disk UTL3742). I shall be registering to get the desk accessory version of the program since this should be far more useful.

In light of my experiences, maybe you could impart this information to your readers. I have just bought the November issue of your magazine and will continue to do so, as long as it continues in its current style. Having spoken to other Atari owners, I can tell you that it is becoming increasingly popular with those primarily interested in the serious side of ST computing. Please continue the good work!
Steve Trice, St Neots, Cambridgeshire

I took the photograph of Mickey the Sorcerer that appeared in the issue you mention, Steve, and no – I didn't have to change the parity when working with an STE and ICD's Link. In fact, I simply "borrowed" the unit from our scan room...

For those of you who may be interested, I also purchased an Apple CD300 CD-ROM drive which has been connected to my Falcon. Having tried ICD's Pro Utilities without success, I have found that the CD-ROM drivers with both Photo Studio and Photo Show work a treat.

Finally, I'm afraid I have to repeat that correspondence cannot be entered into... **Vic Lennard**

Want to shoot from the lip? No problem – just write in to me, Vic Lennard, and think about what you can do with the £25 cheque for the Star Letter...

LETTERS

THE WRIGHT MOVE...

Andrew Wright's criticism of the STE was fine as far as it went, but it didn't go far enough. Atari should have taken a leaf out of IBM's book, and produced not just a machine with a faster processor, but with these specifications.

First, instead of their own peculiar monitor output they should have made it VGA-compatible from the start. Second, the hard disk interface should have been standard SCSI. Third, expansion slots should have been built into it, so that (as with PCs) standard, off-the-shelf video cards could have been used to bump up the display. To have started off with a 640 by 480 pixel display with 16 colours as the lowest resolution would surely have made it a best seller! A slot for a card giving 800 by 600 pixels or even 1024 by 768 would have been better.

The 4Mb limit was also on the small side – restrictive when it comes to DTP and other graphically-based work. Again, to be able to expand to 16Mb or more would have been a distinct asset.

"Power without the price"? I'm afraid that this may not be true of the Atari now. One of the symptoms must be the near-disappearance of all three serious ST magazines from local newsagents. It's now common to see row upon row of PC and Amiga mags but finding even *ST Review* is becoming hard work outside of W.H. Smith.

Barry Gowland, Newport Pagnell, Bucks

Did Atari miss a perfect opportunity when it released the STE?

When the ST first appeared, it was hailed as the first affordable 16-bit computer. Here was a machine fit for almost any task – music courtesy of the in-built MIDI sockets, word processing and DTP with the excellent SM124 and 125 displays, and artistic flair via a colour monitor. At the time, the ST was indeed king of the castle.

Maybe I have become cynical with age – I bought my first 1040STF in 1986 – but it seems to me that Atari still had serious ideas of the TT being a best-seller at the point when the STE was conceived. After all, the TT was the obvious answer to the over-priced Apple Macs even though the latter had growing software support in the professional domain. To have brought out an STE with the characteristics you mention would have severely limited the available arena for the TT, which was certainly seen as the flagship

GOT SOMETHING TO SAY?

ST Review is your magazine and putting pen to paper gives you direct contact with us. As editor, I read every letter that you send and carefully select the ones for publication. If you want to complain, fine – but mindless insults will not find their way into Letters...

It may simply be that you have a constructive criticism about an article in *ST Review*, or that one of our columnists has inflamed you with his honesty. Whatever the reason, drop a line to me, Vic Lennard, at:

Points Of View,
Atari ST Review,
Europa House,
Adlington Park,
Macclesfield SK10 4NP.

Please do not send stamped-addressed envelopes; personal replies will not be entered into.

All mail received is considered for publication unless otherwise stated and we reserve the right to edit letters where necessary without altering the context.

GETTING THE RHYTHM

£25 STAR LETTER

There must be lots of people who, like me, rushed out to buy the STE Music Master package when the price hit £199. Since then I've been happily laying down silly pieces of music with my keyboard. I then link up my Simmons kit to play the keyboards, drum sounds and put drums on the music. If you play the part right through and don't quantise it, it sounds more like a demo and less like a sequencer which can only be a good thing.

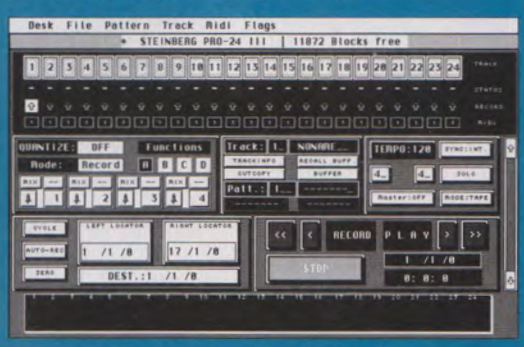
Unfortunately, I'm fast running out of ideas for music as I'm a drummer not a songwriter. I then hit upon the idea of a disk swapping club. You send me a disk with your song and I'll put drums on it and send it back. No fees, just postage – any takers?

John Harrison, 29 Squirrel Close, Beavers Estate, Hounslow West, Middlesex TW4 7NU

Well John, a few more letters like yours and I might start believing in the integrity of human nature – it's rare for someone to want to do something for nothing.

A piece of advice for anyone who wants to take up this excellent offer. The Music Master pack includes Steinberg's Pro 24 sequencer which loads MIDI Files but won't read songs saved in the innate format of another sequencer. So if you have Sequencer One, Creator or any other package, save the song as a MIDI File – this is sometimes referred to as "exporting" the song.

Such selflessness shouldn't go unrewarded, so a cheque for £25 will shortly be winging its way to you, John – this will help with the jiffy bags and any extra postage you need to pay. Now is there a keyboard player out there who wants to add classy synth bits to some good rhythm programming?



Money for nothing and the drums for free...

product. In effect, the STE appears to have been a stop-gap filler. You want higher resolution? Buy a TT. You want more RAM? Buy a TT. You want to use your computer for a professional purpose? Buy a TT...

Had the TT taken off in the UK, then the story would certainly have been different with, perhaps, the launch of a cut-down TT. And no, I do not consider that the MegaSTE served such a purpose – a 16MHz 68000 processor is no competition for a 16MHz 68030 as those of you who own a Falcon are acutely aware.

While the PC is certainly becoming the dominant computer platform, just have a look through the last couple of issues of ST Review. There have been nearly 20 reviews and previews of new products in most areas of the market, including the excellent Atari Works program that gives almost any small business package on the PC a good run for its money. As for the difficulty in finding ST Review at your local newsagent, there are two answers; subscribe or place a regular order. Have confidence in your favourite magazine! After nine issues up here at Europress, I think you can start to believe that ST Review has a future...

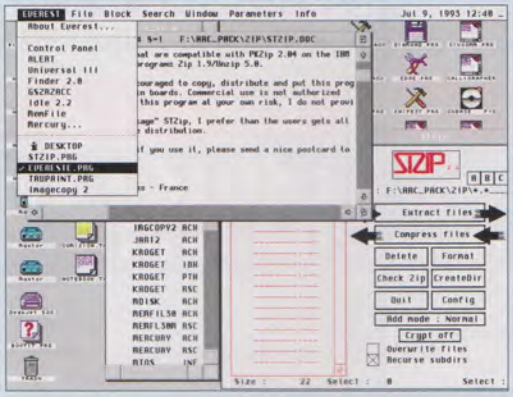
TOO FEW SYSTEMS!

I was amused to read Phil Bath's comments on *MultiTOS* in last month's Star Letter. Following on from his argument, the *Universal Item Selector* (UIS) should never have been written as it replaces a part of TOS, as does *Little Green File Selector* and various others. What about *Neodesk*, *Mortimer* and *Tera Desk* – surely these also get the boot according to Phil along with *Quick ST* and the amazing *NVDI*. All replace TOS functions so should we ditch these too?

No, of course not. The tragedy for the ST has not been in what has been written but what hasn't! We suffered *GDOS* for far too long and the alternative *G++*, while very good, was not good enough to stem the slide. The end result is that most ST software uses different font handling and printer drivers due to the lack of a good enough standard for software developers to work with. Had such a standard been available, then the ST could have had a standard for fonts and printing much like the Apple Mac.

As for *MultiTOS*, that it defines a standard for multi-tasking on the ST is a great step forward – a standard that other software developers can aspire to emulate and improve upon. Why? Well I certainly have not seen a complimentary review of *MultiTOS* and only know of one active *MultiTOS* user!

Phil cites *DR DOS*. Thanks to this competition, Microsoft were forced to enhance *MS DOS* further than they had originally planned, to the great advantage of PC owners in general. If *DR DOS* does not maintain full compatibility with *MS DOS* it will not sell; it must provide additional benefits to the user in order to compete with the Microsoft "standard" product. Similarly, *Geneva* or any other multi-tasking operating system will fail unless they enhance the defined standard – *MultiTOS*. Now let the development continue at speed so that Atari owners get the great multi-tasking system that they need, be it *MultiTOS*, *Geneva* or some other.



MultiTOS – defines the multi-tasking standard for Atari computers.

Phil's concerns, shared in your editorial comments, completely miss the point! The standard has been defined and software houses will write using specific non-standard functions in alternative multi-tasking operating systems only at their peril. What *Geneva* and others must do to survive is make the standard more usable – faster, easier to work with, more compact, more affordable and so on. If not, they will clearly fail.

If Gribnif shows Atari what can be done with multi-tasking, even on a standard ST, then perhaps the competition will finally awake Goliath. Either way, thanks to Gribnif you have a choice. In the end you will decide.

Neal O'nions, COMPO Software – Distributors for Gribnif products including Geneva

Fifteen-all! But who do you agree with? Drop me a line...

FISHING FOR COMPLIMENTS

Picture this. A reader of computer magazines, whether regularly or on a casual basis. He has perhaps one or two interests outside of computing. A lot of people do. While browsing through the latest magazine, his eyes light upon a disk title which seem to be right up his street. Wishing to know a little more about it, he reads the review, which says, in effect:

"I personally have no interest whatsoever in the subject, therefore I will not even attempt to describe the disk properly. Instead, I will simply dismiss it with a few facile comments and smart-arse wisecracks."

Now what sort of reviewer would write something like that? Answer: someone who doesn't like fishing. I refer, of course, to your "review" of V.F.M. Shareware's *Coarse Angler* program.

Our reader would find the conclusion equally enlightening: " A fisherman might like it..." Does it not specifically state, in the very first paragraph of the introductory .DOC file, that this is precisely the person for whom it is intended? Besides, who else pray tell is likely to go for a disk with a title like *The Course Angler*?

"....but I personally find it boring." I cannot deny it. Someone who likes to blast a few aliens, and goes out and buys computer Backgammon, or Chess, or an art package is indeed likely to be extremely bored – not to mention extremely stupid.

For the sake of fairness – to your readers, to V.F.M. Shareware, and to any author who has ever written a program relevant to a particular interest – would it be too much to ask that you review a piece of software from the point of view of the intended user?

Thus, one would consider, say, the latest MIDI program, and how it might meet the requirements of someone interested in making a bit of music. By all means condemn it if it's not a very good MIDI program, but please do not condemn it because it's not a word processor.

C E Moody, V.F.M. Shareware, Rotherham, S. Yorks

Oh dear, your cage has been well and truly rattled! But be a little bit reasonable – ST Review dedicates nine pages to public domain, which is more than the other two ST magazines put together! We vary the topic areas from month to month to make the section that bit more interesting and use a light-hearted approach so that everyone can enjoy the read. If we adopted a sterner, more serious, manner, how many readers would take the time out to go through each product? PD Zone and PD Scene would soon become the sections you always remember to skip past. Then who would give programs such as yours the public light of day?

If our review was a little too irreverent then please accept my apologies. Now how about the deep sea, shark hunting version...

DO YOU WANT TO EDIT, MATE?

For a while, *ST Review* has been encouraging its readers to write to software houses, pressuring them to convert titles available on the PC or Amiga to the ST, so why not the reverse?

We have a product, a video editing package called *CamLink Edit Mate*, which is currently available on the Amiga and PC, and are contemplating releasing this product for the Atari ST. What we would like is for interested *ST Review* readers to write to us at Lamba Group PLC, Lamba House, Unit 4 Apex Point, Travellers Lane, Welham Green, Hatfield, Herts AL9 7HB, and say whether there is a demand for this product.

Edit Mate can control a video player (either a camcorder or conventional VCR) and a video recorder using any combination of Sony LANC-compatible or Panasonic-compatible edit control, or infra-red remote control. This allows you to edit your home movies and rearrange the scenes in any order, all under software control. The PC and Amiga packages also come with an audio mixer, enabling you to add music and narration to your footage.

The price of the *Edit Mate* package for the ST would be about £200 and, assuming there is a market for it, could be available by the beginning of 1994.

Derek Wallis, Research and Development Manager, Lamba Group PLC

How often have we complained that manufacturers create products without asking for the opinions of those who are expected to buy it? Well here's your chance. If you feel that the ST market can support a professional video product of this nature – at a reasonable price – please drop a line to Derek. ST Review will stay in contact with Lamba Group and keep you posted of the outcome.

The Coarse Angler – PD for the dedicated fisherman...

A.W.F. PDL

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